MAY, 1957 2s. 3d.

Personnel Management & Methods

WELFARE · SAFETY · HEALTH · CANTEEN · EFFICIENCY AIDS

The Struggle for TECHNOLOGISTS

What are firms doing to meet the shortage of scientists?
(see page 19)

★

Training Charts Plot Morale
(see page 24)

★

Personnel Manager or Social Secretary?
(see page 31)

No. L 113. *The new black Oxford "Lightweight" Totectors Safety Shoe, welted construction, Dri-ped Chrome soles, Dunlop heel, vamp linings of "Protexa" fabric, specially treated to resist breakdown caused by moulds and other micro-organisms.*

(L. 243. *Full Brogue with tan uppers, Sussex twin grip heel).*

The greatest advance in industrial footwear

After three years of development work, the amazing new "Lightweight" Totectors shoe emerges as the greatest advance ever in the perfection of industrial safety footwear.

Indistinguishable from the normal footwear, the "Lightweight" is manufactured to B.S.I. Specification 1870, and is available in two styles —the storm welt Oxford Black and the full Brogue with tan uppers, Sussex twin grip heel. Both are fitted with the famous "Totectors" internal steel toe cap, affording first-class protection against foot injuries. And both shoes are of welted construction and have Dri-ped full chrome soles, the longest wearing sole material yet known. The "Lightweight" is a triumph of craftsmanship and every Welfare Officer must make a point of seeing it.

Lightweight

PEGD

TOTECTORS

Send for illustrated brochure of the Complete Totectors range to Dept. P.M.

WILKINS & DENTON LTD · 51-52 WOBURN PLACE · LONDON · WC1

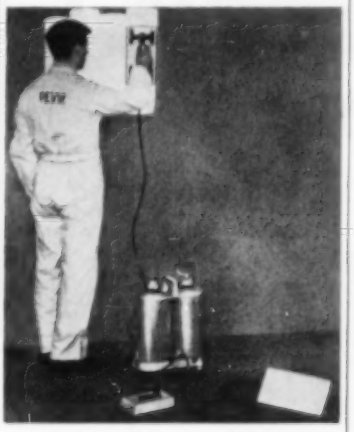
CUT PAINT CLEANING COSTS

WITH THE

"REVVI"

Wall Washing Machine

Improves Working Conditions
Stimulates Hygiene



Walls and ceilings can be washed cheaply and with the minimum of disorganisation by means of the REVVI washing machine.

A saving of at least one half of the normal labour costs is effected.

Being silent in operation and not requiring very much floor space, the REVVI machine does not distract the attention of persons working near it. For ease of movement, it is fitted with rubber-tyred castors. The water and cleaning solutions do not drip on to floors, machines or desks, so dust sheets are not needed.

The cylinders of the REVVI machine are filled with clear water and REVVI detergent solution respectively, and both water and solution are kept under pressure by a few strokes of a manually-operated air pump. A few minutes' pumping is sufficient to last the day's operations.

PRICE COMPLETE £55

For further details write or phone:

REVVI

LIMITED

70 Blackstock Road, London, N.4

Telephone: CANonbury 5246-7

Personnel Management & Methods

WELFARE · SAFETY · HEALTH · CANTEEN · EFFICIENCY AIDS

MAY 1957

▶ POINT-COUNTER-POINT 13

▶ THE STRUGGLE FOR TECHNOLOGISTS — David Judge — 19
Industry's plans to meet the shortage of scientists

▶ TRAINING CHARTS MEASURE MORALE — K. G. Etheridge — 24
How one firm "plotted" its way to better output and improved staff relations

▶ THE CAMERA LOOKS AT WORKPEOPLE — The Editor — 28
The photographic art of Adolf Morath—"Personnel Management" Picture Story

▶ SOCIAL ACTIVITIES ARE OUR BUSINESS — Discussion Leader — 31
Readers' views on the role of the personnel manager

▶ CATERING FOR LARGE NUMBERS — L. Banham — 37
A review of the recent catering manual by I.C.I.

News & Readers' Service

Management News and Ideas 26
People at Work 33
New Books—New Films .. 35
Safety Topics 38
Management Diary 41
Official Publications 41

NEW EQUIPMENT

Guide for Personnel Executives 43

EFFICIENCY AIDS ★ SAFETY ★ HANDLING ★ CANTEEN
BUILDING ★ GOOD HOUSEKEEPING ★ WELFARE

VOL. 23, No. 203. Printed for the Proprietors, Shaw Publishing Co. Ltd., *registered office: 180 Fleet Street, London, E.C.4, England (Waterloo 3388),* **by Samuel Temple & Co. Ltd., 27Ib King Street, London, W.6.**

Advertisement, editorial and sales offices: Mercury House, 109-119 Waterloo Road, London, S.E.1 (Waterloo 3388). Subscription 30s. per year, post free.

CHANGE OF SUBSCRIBER'S ADDRESS. Please inform the Publishers six clear weeks in advance and include present address as well as new address required.

A watch on the watchman

GIVES YOU POSITIVE, PRINTED PROOF THAT YOUR PREMISES ARE GUARDED **ALL** NIGHT

By means of key-boxes sited at strategic points, all of which the night-watchman must visit in order to actuate the clock's mechanism, LLEWELLIN'S clocks provide a printed record of the time and regularity of the patrols in your building—all night—every night—the only sure method of preventing loss by fire or burglary.

LLEWELLIN'S

Watchmen's clocks

Write to-day for an estimate on your premises

LLEWELLIN'S MACHINE CO. LTD., KING SQUARE, BRISTOL **Tel.: 2-0891 & 2-0875**

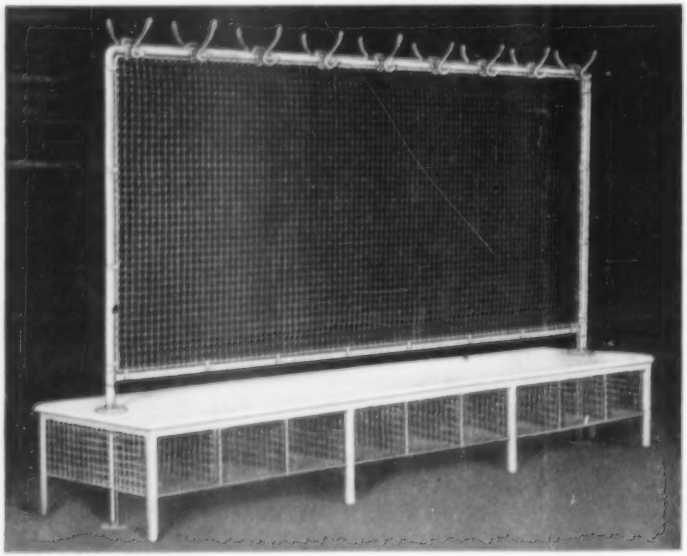


Fig. No. 2616: Also available single-sided for wall positions or base unit alone can be supplied together with hat and coat hooks for wall fixing. For complete range, please ask for List No. PMT 879.

Cloakroom Fittings

Harvey Fittings have been designed to meet the requirements of all modern cloakrooms. The double-sided island stack illustrated here is approx. 5′ 6″ high and is constructed of tubular framework enclosing a wirework panel. The wooden seat is supported by an angle frame and tee bar legs, incorporating boot and shoe compartments approx. 12″ wide × 9″ high × 12″ front to back.

Harvey

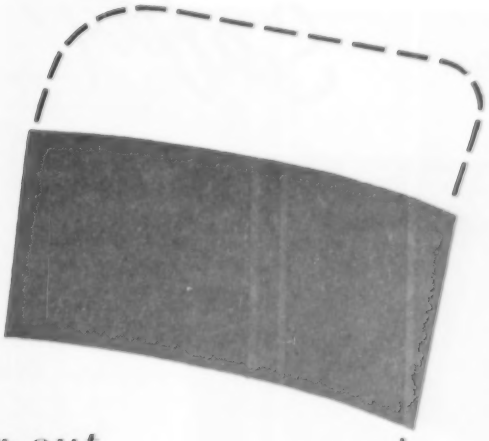
G. A. HARVEY & CO. (LONDON) LTD., Woolwich Road, London, S.E.7 Telephone: GREenwich 3232 (22 lines)

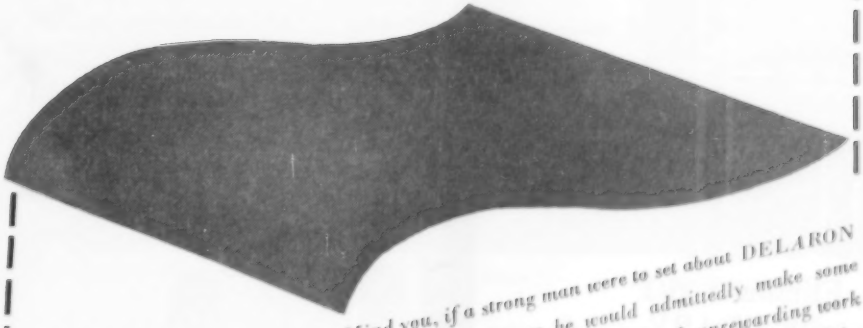
Nesting chairs?

Delaron

seats and backs

never wear out





Mind you, if a strong man were to set about DELARON *laminate with an axe he would admittedly make some impression on it. But it would be hard, unrewarding work because this plastic is the toughest and best material in the world for seats and back rests.*

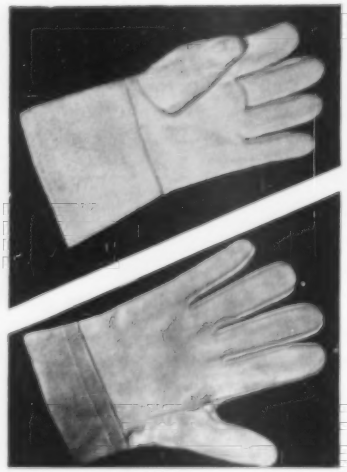
It is half the weight of aluminium, non-splintering and non-porous. Added to which it is smart, and needs only a damp cloth to keep it fresh, clean and gay. The colours available are light tan, black and brown.

So if you're thinking of having nesting chairs fitted with backs and seats which will last, bright and fresh, for as long as the frames themselves, ask us about DELARON *laminates. Get in touch with us at this address :—*

Dept. D12G, Thomas De La Rue & Co Ltd, Plastics Division, Delaform Works, Cricklewood Lane, London, N.W.2.

"DELARON" is a registered trade mark

HAND IN GLOVE WITH *Safety*



The comprehensive range of "EVERTRUSTY" Industrial gloves ensures that whatever the job, whatever the conditions, the hand will indeed be safe! The full range includes an Industrial glove for every purpose.

Above: "EVERTRUSTY" 146. Wrist length chrome leather glove with seams inside.

Top left: "EVERTRUSTY" 326A. Asbestos finger glove lined inside.

Lower left: "DOUBLE DIGIT" D.D.4. Reversible chrome leather glove, wrist length with seams inside.

MANUFACTURERS OF INDUSTRIAL GLOVES AND PROTECTIVE CLOTHING

Specialists in Industrial Safety

WALLACH BROS. LTD.

For over 70 Years

EVERTRUSTY

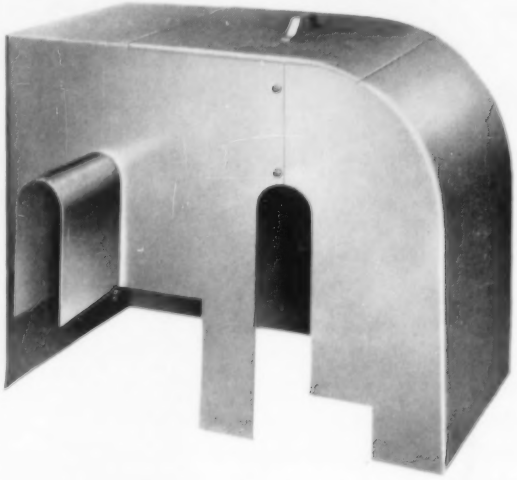
49 TABERNACLE STREET, LONDON, E.C.2

Telephone: CLErkenwell 1448/9 Telegrams: Hammerman, Ave., London

Members of the Royal Society for the Prevention of Accidents

On Guard!

Eliminate risk with BRABY machine guards in Sheet metal or Wire Lattice



ONE OF THE WIDE RANGE OF

BRABY

PRODUCTS

Consult us for your special requirements

FREDERICK BRABY & COMPANY LIMITED

LONDON WORKS, THAMES ROAD, CRAYFORD, KENT. TELEPHONE: BEXLEYHEATH 7777

OTHER FACTORIES AT: Havelock Works, Aintree, Liverpool, 10. TELEPHONE: Aintree 1721
Eclipse Works, Petershill Road, Glasgow, N. TELEPHONE: Springburn 5151
Ashton Gate Works, Bristol, 3. TELEPHONE: Bristol 64041. And Falkirk

OTHER OFFICES: 352-364 Euston Road, London, N.W.1 (Head Office). TELEPHONE: EUSton 3456
110 Cannon Street, London, E.C.4 (Export). TELEPHONE: MANsion House 6034
Queen's Buildings, 10 Royal Avenue, Belfast. TELEPHONE: 26509
Palace Street, Plymouth. TELEPHONE: 62261

AP16

Woman's button-front overall *Man's long coat* *Man's bib and brace* *Man's boiler suit*

"Wherever industry is best served"

the Sketchley Overall Service is regarded by the management and worker as a most important welfare amenity. The management appreciate good looking 'work wear' which heightens morale, and the workers like the health safeguard of clean, carefully-repaired garments.

Sketchley

OVERALL SERVICE

Write for illustrated literature and details of an attractive display stand available on loan.

BIF
BIRMINGHAM
6-17 May 1957
We are exhibiting

The Sketchley Overall Service, for a small weekly charge, provides new overalls in a wide range of styles and colours for both men and women, cleans them weekly, repairs them when required, and replaces the overalls as they become worn out.

STAND NO. D 730

SKETCHLEY LTD · Fox Grove · Old Basford · Nottingham · *Telephone*: 75161

A Suggestion

to personnel manageresses

for furthering the comfort and well-being of female workers

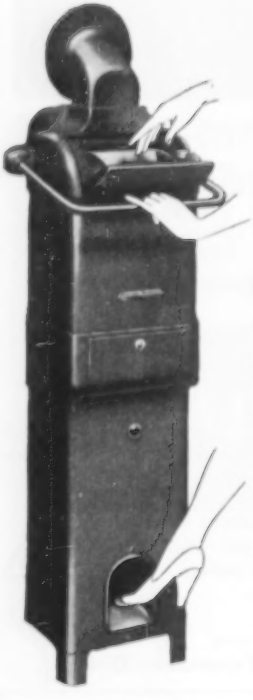
Personnel Manageresses will know that the difficult days for female workers can constitute an industrial problem. Comfort is best maintained at these times with either Mene or Menex Sanitary Protection which for over fifty years has been the choice and trust of womanhood. Reliable, highly absorbent, of downy softness ... a protective back . . . Mene and Menex possess the qualities necessary for peace of mind and ease of body. They have loop ends for snug adjustment. Write today for a special quotation for a bulk order. You can have confidence in recommending . . .

Mene REG'D. Menex REG'D. SOLUBLE

ROBINSON & SONS LTD.

WHEAT BRIDGE MILLS, CHESTERFIELD, DERBYSHIRE

MANUFACTURERS OF ALL KINDS OF SURGICAL DRESSINGS



G.E.C. ELECTRIC

SANITARY INCINERATORS

The answer to a personal problem for your staff

The efficient and hygienic disposal of sanitary wear can be quite a problem for female staff—and residents too, perhaps. That is why managements with the more personal requirements of their staff in mind install G.E.C. Electric Sanitary Incinerators.

- *Easily operated with foot pedal. This opens hopper and automatically controls switching.*
- *Solid rod heating element for long life; special clutch mechanism for economic operation.*
- *Awarded the Certificate of the Royal Institute of Public Hygiene.*
- *Fully guaranteed for twelve months.*

Price £49 15 0

Write for fully descriptive publication on the dependable G.E.C. Sanitary Incinerator.

THE GENERAL ELECTRIC COMPANY LTD., MAGNET HOUSE, KINGSWAY, LONDON, W.C.2

NOW! DALMAS introduce their NEW

Individually SEAL-WRAPPED DRESSINGS

bringing these advantages to YOU!

1. Keep absolutely hygienic prior to use.
2. So easily handed out for self-application after initial treatment.
3. Seal-wrapping so quickly removed.
4. Eliminates deterioration of the dressing whilst in store.

Further details supplied on request from:

DALMAS

BULK PACKS

Cat. No.	Size	Boxes of 50	Boxes of 100
CIRCULAR DRESSINGS		s. d.	s. d.
R. 30 (IW)	1.$\frac{5}{16}$" dia. ...	6 9	12 0 each
R. 40 (IW)	1.$\frac{5}{16}$" dia. ...	8 0	14 9 each
RECTANGULAR DRESSINGS			
L. 425 (IW)	1.$\frac{5}{16}$" x 1" ...	7 3	13 6 each
L. 63 (IW)	2$\frac{3}{8}$" x 1.$\frac{5}{16}$ ...	9 6	17 6 each
L. 625 (IW)	2$\frac{1}{2}$" x 1" ...	8 9	16 6 each
		Boxes of 25	Boxes of 50
L. 84 ± (IW)	3" x 1$\frac{1}{2}$" ...	7 0	12 6 each
L. 755 (IW)	2" x 3" ...	7 3	14 0 each

CABINETS AND REFILLS

	Cat. No.	Price
DALMAS ELASTIC FIRST-AID CABINET No. 3		s. d.
Containing 72 Dressings individually wrapped—2$\frac{1}{2}$" x $\frac{3}{4}$"	136	9 6 each
REFILLS—boxes of 72 Dressings individually wrapped	136R	8 6 each
DALMAS WATERPROOF FIRST-AID CABINET		
Containing 144 Dressings individually wrapped 2$\frac{1}{2}$" x $\frac{3}{4}$"	924	19 0 each
REFILLS—boxes of 144 Dressings individually wrapped	924R	18 0 each

DALMAS LIMITED · LEICESTER and LONDON · Est. 1823

Putting Fashion to Work

STYLE NO. A520

DRILL OVERALL

Well tailored, Button Front, 3 Patch Pockets, All-round Belt. All seams double sewn. Long or Short Sleeve. Also with open Revere Collar. Available in Florentine Drill.

Shades: Beige, Turquoise, Reseda, Saxe, Emerald, Pink, Royal, Chestnut, Maroon, Bottle, Navy and White. Also in SATIN DRILL, White only. Sizes: SW 45", W 46", WX 47", OS 48", XOS 48".

EFFICIENT OVERALLS by **Dinkum**

ANGUS JOWETT & CO. LTD

SKELTON INDUSTRIAL ESTATE, SALTBURN-BY-THE-SEA, YORKS.

Telephone - Skelton 142 Established 1911

MANAGEMENT, LABOUR AND COMMUNITY

Edited by D. Cleghorn Thomson, M.A.(Edin.), B.A.(Oxon), etc.

A symposium of the writings of 22 of the nation's experts in management and human relations. Each contributor is a practitioner engaged daily either in managing the work of others or in trying to improve the training arrangements for those who are, or will be, engaged in management. Each one faces the fact that insufficient attention has been devoted to the problem of management in the past. An essential book which shows that an intelligent study of management is necessary if industry in this country is to increase its productivity and produce a contented labour force. 35/- net.

PITMAN, Parker St., Kingsway, London, W.C.2

To remind you . . .

that **if you have a vacancy to fill,** junior or senior, skilled or unskilled, you should get in touch with the Officers' Association. This organisation is an Employment Bureau, and it has on its books much promising material. If the Officers' Association introduces a man, you may be sure that he is a candidate of complete integrity, potentially suited for that particular job, and well worth interviewing.

Next time you have any vacancy whatsoever, why not first try the Officers' Association? Ring them at **Abbey 2556** or write to **Dept. P.3, The Officers' Association, Windsor House, Victoria Street, London, S.W.1.**

JELTEK PROTECTIVE CLOTHING

Old Bert says—

"My Guv'nor knows how to keep us blokes warm and dry in bad weather."

Bert's employers indeed know from experience the best, most economical way of keeping their men adequately protected against adverse weather conditions. That's why they always specify 'JELTEK' Protective Clothing.

Manufacturers and Distributors of P.V.C. and Oilskin Clothing, Donkey Jackets, Duffle Coats, etc.

THE CIRCLE JEL SERVICE

J. E. LESSER & SONS LTD.
GREEN LANE • HOUNSLOW • MIDDLESEX
HOUNSLOW 7283/7

THE CIRCLE JEL SERVICE

Photograph by courtesy of The Automatic Telephone Co. Ltd., Liverpool.

The Fraser Tuson Vulture Scrubber and Polisher being used in its scrubbing role in conjunction with the Dipper Suction Drier leaving the floor perfectly clean, dry and ready for use.

DESIGNED AND MANUFACTURED BY
Cimex-Fraser Tuson Ltd.
25/27 CRAY AVENUE • ORPINGTON • KENT

Commando stands for safety

All workers in mines, steelworks, foundries, on engineering projects and agricultural work who wear Commando Soles and Heels—and there are literally hundreds of thousands who do—appreciate their sure grip and outstanding wear.

For the SAFETY of all the men and women under your care specify Commando Soles and Heels . . . they'll stand up to the most rigorous conditions in heavy industry.

Commando

Registered Trade Mark

SOLES AND HEELS

AN **ITSHIDE** PRODUCT

Itshide Rubber Co. Ltd., Petersfield, Hants.

SAFER with... Siebe, Gorman

IN MANUFACTURING INDUSTRY, mining, rescue work, firefighting, deep-sea diving and similar occupational hazards everywhere, Siebe, Gorman equipment is safeguarding life and health.

Here are some typical applications :

BREATHING APPARATUS. Self-contained Compressed air types, Marks II and III and Oxygen types, 'Proto', 'Salvus', 'Lungovox' and 'Fireox'.

RESPIRATORS. The range includes the Compressed Air Line Respirator (illustrated) and the 'Puretha' Mark IV Gas Respirator.

RESUSCITATION APPARATUS. Oxygen types for asphyxia, electric shock, etc., including the 'Novox' and 'Novita'.

PROTECTIVE CLOTHING of every description including helmets, goggles, dust and fume respirators.

Established 1819

SIEBE GORMAN & CO. LTD. LONDON — EVERYTHING FOR SAFETY EVERYWHERE

Neptune Works, Davis Rd., Chessington, Surrey

Telegrams : Siebe, Chessington. *Telephone : Elmbridge 5900*

Toilet Tissue for the bulk user

HERE IS A WIDE RANGE
DESIGNED TO MEET ALL NEEDS

BRONCO ROLLS

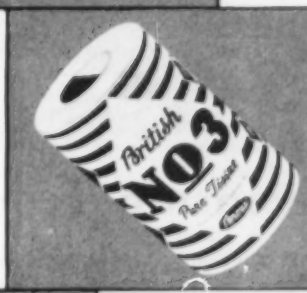
Without doubt the best known of all British Toilet Rolls. Each roll contains approximately 500 full size sheets of pure manilla paper.

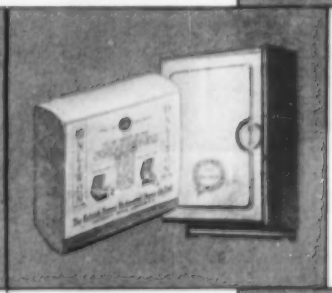
BRONCO Interleaved Packets

Contain 300 sheets of the celebrated Bronco paper in interleaved form. Fit all standard containers, or can be used direct from the attractive packet in which it is supplied.

BRITISH No. 3

This roll contains approximately 420 full size sheets of 100% pure M.G. sulphite paper and is one of the most popular rolls with industrial firms.





ONLIWON

ONLIWON CABINETS once installed cannot be removed from wall by any unauthorised person, thus preventing pilferage and waste.
ONLIWON TOILET PAPER is a pure tissue of high quality. In packets of approximately 760 sheets, 5 in. × 5½ in. This Onliwon System saves its cost over and over again.

MERICO

This roll contains approximately 310 full size sheets of high quality white M.G. sulphite, soft, strong and aseptic.

LAVATO

This attractively packed interleaved paper is made of pure M.G. sulphite and contains approximately 300 sheets per packet.

Being leading manufacturers of such a wide range of Toilet Paper, we confidently invite your enquiries.

THE BRITISH PATENT PERFORATED PAPER CO. LTD.,
HACKNEY WICK, LONDON, E.9 Tel.: AMHerst 4777

Bronco
The De Luxe Toilet Paper

"What? Scrap our Pension Fund?"

But the General was jumping to conclusions. His colleagues were discussing something much more positive.

The 1956 Finance Act, they explained, means that insurance companies can now accumulate investment income for pensions free of tax, which was only possible previously with internally-administered Funds.

"Well," said the General, "if that means an insurance company is now on level-pegging with us, and is prepared to guarantee pensions for a known annual premium, we'd be fools to go on worrying about investments and valuations and all the rest. Let them do the job they are equipped to do, and let us concentrate on OUR real job—manufacturing. It must pay."

It does. For expert, independent advice, consult

The Noble Lowndes Pension Service

38 LOWNDES STREET · LONDON S.W.1 · TELEPHONE SLOANE 3465 (15 LINES)

3 NEWTON PLACE, **GLASGOW**, C.3 · 119 TALBOT ROAD, **MANCHESTER**, 16 · 860 SEFTON HOUSE, **LIVERPOOL**, 2 · EASTERN ROAD, **ROMFORD** · BRUNEL HOUSE, **BRISTOL**, 1 · 202 HAGLEY ROAD, **BIRMINGHAM**, 16 · 5 EAST CIRCUS STREET, **NOTTINGHAM** · PHOENIX CHAMBERS, SOUTH PARADE, **LEEDS**, 1 · 64 FARGATE, **SHEFFIELD**, 1 · 21 COLLINGWOOD STREET, **NEWCASTLE-UPON-TYNE**, 1 1/3 QUEEN'S SQUARE, **MIDDLESBROUGH** · QUEEN'S HOUSE, PARAGON STREET, **HULL** · 5 WINDSOR PLACE, **CARDIFF** · 58 HOWARD ST., **BELFAST** · 39 KILDARE ST., **DUBLIN** · 106 FOX STREET, **JOHANNESBURG** · REGIS HOUSE, ADDERLEY STREET, **CAPETOWN** · 332/334 WEST STREET, **DURBAN** ANGWA STREET, **SALISBURY, S.R.** · CORONATION AVENUE, **NAIROBI** · 16 O'CONNELL ST, **SYDNEY, N.S.W.** P.O. BOX 2264, **AUCKLAND, N.Z.**

Associated Companies throughout Canada and the United States of America

Point Counter Point

'DISHONOURABLE' LEARNING

IN this issue we examine the methods whereby a cross-section of British industry is seeking to attract technologists. As we were completing the final research for the article, Political and Economic Planning published their pamphlet *Salaries of Graduates in Industry*. This shows that even today the salary policy pursued within industry offers an over-all advantage to arts graduates, and the authors' main conclusion is that such a policy is by no means calculated to encourage men to read science and technology.

The report goes on to point out that it would be rash to deduce that the better scientists and technologists are not being brought into the management succession but there are signs here as well that the arts man is favoured.

Many scientists make no bones about their belief that this favouritism stems from the traditional view that a science education is not quite so respectable as one in arts. Sir Francis Bacon noticed it even in his day. "It is esteemed," he said, "a kind of dishonour to learning to descend into an enquiry upon matters mechanical."

At all events, it is certainly true that many managers favour the arts man for higher posts because they believe he has received the type of education that develops judgment and enables him to see things steady and whole. The popular conception of the boffin, on the other hand, is that he is narrow and dedicated. For these two assumptions a scientist can in truth retort there is no scientific evidence whatever. Like any other experience, a university education can teach only the teachable.

There is no doubt, however, of the evidence around us that technology is absolutely vital to our survival. And in this matter one can do no better than quote from the 1956 Sir Alfred Herbert Paper by Dr. B. V. Bowden, Principal of the College of Science and Technology, Manchester.

"It is essential that our industry should attract its fair share of the best brains of the next generation; its recruits must be adequately educated if they are to be fitted for their life's work. They will have to learn science or technology—or Russian."

UNION ATTITUDES

WHAT do trade union members think of their unions? We know what some managements think of them, and just how these feelings are reciprocated by the unions concerned, but broadly speaking the attitude of the rank and file to their leaders and their *movement* is quite obscure. The recent election of a general secretary for the Amalgamated Engineering Union, where the result was almost a photo-finish and the votes cast totalled only 8 per cent of a 900,000-strong membership, points to apathy and, possibly, confusion.

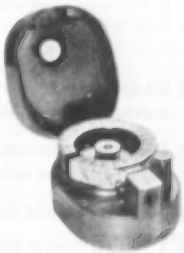
The subject of union attitude is the basis for an interesting piece of research in the United States. The Union Services Research Laboratory, a branch of the Minnesota Industrial Relations Centre, sent out a questionnaire to 1,251 members (representing 13 unions) and 100 non-unionists.

It contained 77 items ranging from unions and local union activity in general to what the researchers call "diagnostic items"—typical of which was the question: "Do you regard your union dues as a good investment?" The article does not give the answers received to this searching query, but only seven per cent of the rank and file would agree that the dues were too low.

"I want a transfer from the press shop. I'm accident-prone."

BLICK

WATCHMAN'S CLOCK



WATCHMEN ARE IMPORTANT PEOPLE

Properly instructed and supervised Watchmen greatly reduce the risk of fire and burglary. Without such instruction and supervision they can be worse than useless. Write now for free 12-page booklet describing fully the simplest and most effective system yet devised of ensuring that your Watchman guards your property *as you want it* guarded.

BLICK TIME RECORDERS LTD

VINE YARD

99 ALDERSGATE STREET, E.C.1

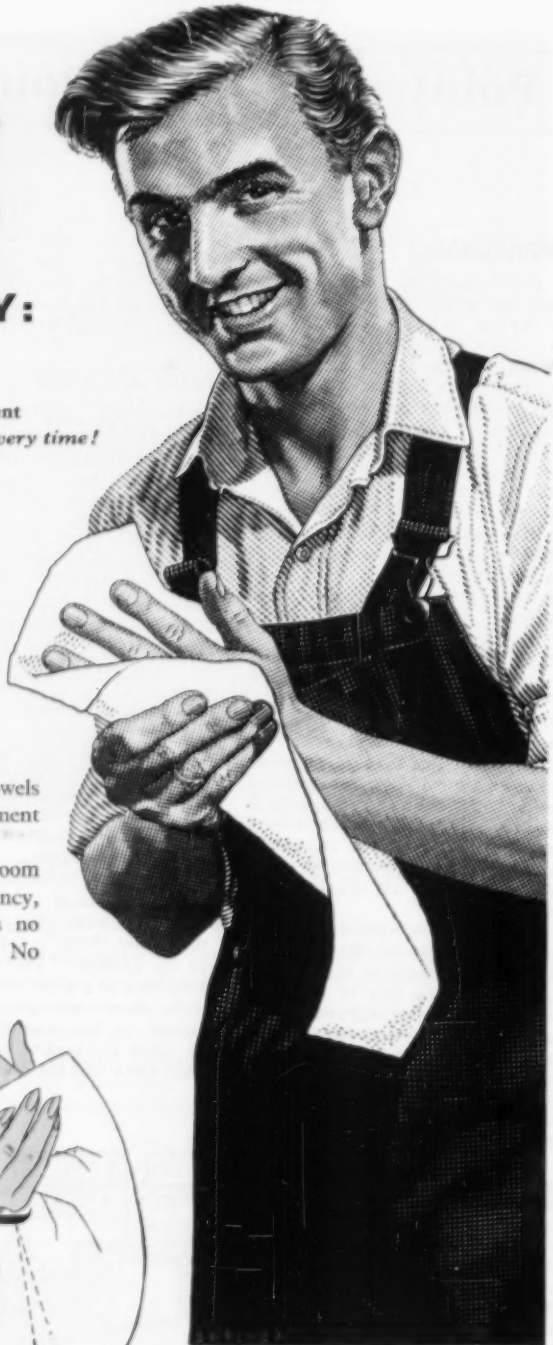
MONarch 6256

HERE'S WHY

Hi-Dri

IS A BETTER DRY:

- **Hi-Dri is the most economical and efficient method of providing a clean, dry towel *every time!***
- **Hi-Dri has immediate absorbency with *very high* wet strength.**
- **No queueing in the washroom.**
- **Used Hi-Dri is easily disposed of — including germs.**
- **Hi-Dri Dispenser Cabinets supplied and installed *free* on loan.**
- **Hi-Dri is not just a paper towel, it's a complete drying service!**



In the factory, in the office, Hi-Dri Paper Towels make a big contribution to good labour/management relations.

Install Hi-Dri at the bench and in the washroom as added protection for staff health and efficiency, and reduce absenteeism. With Hi-Dri there's no waiting, no wasted man-hours ticking away. No laundry bills — but a clean bill of health.

THE COMPLETE DRYING SERVICE

Phone or write for a free demonstration TATe Gallery 4051 (5 lines)

Hi-Dri
PAPER TOWELS

INDUSTRIAL DIVISION—KIMBERLY-CLARK LTD., 11 GROSVENOR GDNS., WESTMINSTER, S.W.1.

Point Counter Point

Less than a fifth thought that their national officers were paid too much, but an ominous 53 per cent were undecided. *Even 14 per cent of the officers questioned agreed that they were overpaid.*

The rank and file seemed to agree overwhelmingly that the unions protected their rights on the job, and that with full union membership employees had better wages and working conditions. Yet 5 per cent of the officers were found to doubt this. Since 10 per cent also agreed that more laws were needed to curb union powers, one is left wondering just what they were doing as officers of a union.

THE CLOSED SHOP

The ugly head of the "closed shop" was reared in the item: "Unions should have something to say about whom the employer hires." Over half the officers agreed, yet even more of the rank and file disagreed, only to perform a mental somersault with 51 per cent claiming that to hold his job a worker should have to join the union.

The ranks were strongly against fines for non-attendance at meetings, but they also found their meetings interesting. The second point seems to dismiss the charge of apathy and the first may just arise from an instinctive hatred of regimentation. Confusion and/or ignorance were apparent though, in that a large percentage of the rank and file had no opinion to express about the union at national level, and the researchers contend that not enough information on the national union is given locally.

If this is the case over here and members are out of touch with national matters it would help to explain the sporadic striking and threats to strike which have bedevilled British industry for a long time. A similar study of union attitudes in this country is long overdue. It would be warmly welcomed by management who would at last have an opportunity of finding out not what the executive or the shop stewards feel (that is demonstrated often enough) but what their rank and file employees think.

NEXT GENT PLEASE!

IT is always a pleasant surprise to learn of something new—however simple or trivial—that indicates we are slowly overcoming our national fixation that to be uncomfortable is to be virtuous.

Into this category comes a device known as the Auto-Shaver which, claim the makers, management will welcome with open arms. It is no more than an electric razor, operating on a slot-machine mechanism, plus a white cabinet with a fitted mirror. Sixpence in the slot buys a five-minute shave for anyone in the firm wishing to spruce up a bit. After use, the razor is automatically disinfected. The device can be hired or bought outright from Partwest Ltd., 50 Mount Street, London, W.1.

For five o'clock spruceness

All of which brings to mind the recent advertising campaign for a toothpaste for those who cannot clean their teeth during the working day. Why not? Most offices have adequate washing facilities. Must it be that cleaning one's teeth outside the home is not quite the thing?

A TIMELY EXAMPLE

THE word "strike" is well chosen. When a strike hits a factory it delivers a blow from which the industry takes a long time to recover. Whenever the word is mentioned the immediate picture is one of dead calm, a sudden death to movement and life, as if Sunday had conquered the workshops. It is a time of doing nothing.

At least that is the popular conception, and whereas it may still hold good for many industries, a recent report from Canada suggests that there *are* things management can do to combat stagnation. A strike at the General Motors plant in Oshawa, near Toronto, caused a complete production stoppage for several months, yet while the 20,000 employees were idle or picketing the plant, management was busy going round the works looking for ways of making production quicker and more efficient.

This example was given recently in an address to members of the British Institute of Management by Brigadier C. Arnold-Edwards, O.B.E., R.A.O.C., who spent his last summer holiday in an industrial tour of North America. The Brigadier described improvements carried out by a foreman in charge of the chassis build-up flow line. The

STEEL CLOTHES LOCKERS
ABIX—CYCLE STANDS
A Quarter of a Century's experience in Cycle Stand Manufacture
All-steel construction. Single Units or banks of two, three or four. Stove-enamelled green. Lock and Die-cast handles.
Size of Single Unit
72" High
12" Wide
15" & 12" Deep
Supplied in single, double, three-tier or four-tier.
Write for illustrated catalogues
Type 'B' Double-sided stand with 12" centres. Steel-work stove-enamelled green.
25 different types from which to choose.
ABIX
(METAL INDUSTRIES) LTD.
Factory Equipment Specialists
Phone:
TAYBRIDGE HOUSE, TAYBRIDGE ROAD, BATTERSEA, LONDON, S.W.11 BAT 6666/7

HEY!

I'M WASTING YOUR MONEY

I can't compete against sunlight, you know! In fact, I look so dim in daylight that they keep forgetting to switch me off. But I'm still bright enough to see that I'm wasting electricity! Why don't you fit a SAVELITE?

Why not, indeed? The 'Savelite' is a new photo-electric device which warns factory and office workers when to switch off unnecessary lights. Easily and cheaply installed in individual offices and workshops, it *cuts* electric light bills to the barest minimum, and saves its cost in a very short time.

A 'Savelite' is a neat little photo-electric unit that fits in the window and literally watches daylight and tells you when artificial lighting is not required. Take a walk round your works—it may surprise you to see how much money is being wasted on unnecessary lighting (lights which they have **forgotten** *to switch off!) The 'Savelite' unit costs only 23 Gns.—quickly saved out of your electricity bill. And remember—more light is wasted in the lighter months.*

CUT THESE ELECTRICITY BILLS BY INSTALLING

SAVELITE

IT REACTS TO LIGHT AS A THERMOSTAT REACTS TO HEAT

Full details from
RADIOVISOR PARENT LTD., Stanhope Works, 61r High Path, London, S.W.19 *Tel: CHErrywood 3351*

RADIOVISOR MAKERS OF ELECTRONIC CONTROLS SINCE 1927

CLEANER, SAFER MORE EFFICIENT!

Greasy dirt on machines . . . ingrained grime on hands . . . they're inseparable from industry, but they're no help to smooth, efficient production.

WITH

Jizer
SOLUBLE SOLVENT

For Degreasing Machinery
Just brush or spray JIZER on, flush with water and the soil comes away as milky-white suds. JIZER won't clog drains.

For Production Degreasing
JIZER in a degreasing bath removes oily wastes and cutting oils — prevents subsequent rusting. No fumes —no evaporation.

For Cleansing Floors
Spray JIZER on, brush thoroughly, flush with water and the most dirt-encrusted floor comes up clean and grease-free.

AND

Swarfega
HAND CLEANSER

Removes the most stubborn grime from the hands in a few seconds —no matter whether it's grease, oil, tar, creosote, paint or dye. Antiseptic, emollient, SWARFEGA helps cuts to heal and reduces absenteeism through skin troubles.

SEND THIS FOR SAMPLES

To DEB CHEMICAL PROPRIETARIES LTD. · BELPER · DERBYSHIRE

Please send samples & details of JIZER / SWARFEGA *

Firm's Name

Address

P 1

* Cross out product not required.

Point Counter Point

chassis had always moved along in an upright position and at one stage of assembly half the components had to be bolted on by men working in cramped positions underneath.

The strike gave the foreman his opportunity. With production at a standstill he was able to design a rotating frame on the moving line, which turned the chassis on its side, enabling the work to be done by men standing on each side. The result was lessening of fatigue on the job and a saving of some 30 pay packets on the three main assembly lines when the plant reopened.

This case history is just one example of how a strike can be made to supply half the loaf which, as we all know, is better than no bread. An industrial world without strikes would be a wonderful place, but even a world with strikes can be improved.

DOMESTIC INCENTIVES

TO almost every salesman the chief incentive to do his job well is his commission on sales. The more he sells the more he earns and the higher his living standard and that of his family. This, however, does not preclude other forms of incentive. Some firms offer a trophy for salesmanship, either to the individual or to the sales section with the fullest order books. This form of contest is well suited to the competitive world in which the salesman works, but its main disadvantage is that his family does not necessarily share the reward.

This has been taken into account by the Ofrex Group in a national sales contest to mark their 21st anniversary. They have drawn up an impressive list of prizes for expert selling, obviously with the family and the home in mind. Even £65 worth of additional orders can win one of their salesmen an automatic frypan which would cost him £9 19s. 6d. in the shops, while the glittering goal for an additional £1,000 in orders is a Ford Prefect De Luxe worth over £600. In between there is an assortment of prizes calculated to put every man on his mettle—refrigerators, radiograms, washing machines, lounge suits and fur coats—the list is long and for the family man, we should imagine, completely irresistible.

To make it more attractive not only is the salesman told how much he must increase his turnover to win a prize. He is also given a list of the products needed to make up that sum. One glance at the prize list, another at the system, and out he goes on his rounds, if not with a field marshal's baton in his knapsack, then perhaps with his wife's musquash coat wrapped up in his order book.

The company introduced the new scheme to its salesmen in an interesting way. The twenty-one items were displayed at their convention last December, and a theme was developed in which each article represented a certain scale of extra selling effort. Towards the end it was suddenly announced that these were not just methods of expression, but actual prizes. The competition began in January. By the end of June there will be 21 families proudly welcoming home a hero.

P.T. WITH A PURPOSE

PHYSICAL training as part of the curriculum is something most boys leave behind when their schooldays end. For apprentices at Newton Chambers & Co. Ltd., Thorncliffe, however, P.T. is as much a part of their training programme as any of the foundry processes.

"P.T. with a Purpose" is the idea of Mr. B. Morton, the firm's training officer, and instruction is given by Mr. T. A. K. Hewling. Their aim is to develop by physical exercises the qualities of strength, dexterity, agility and confidence specifically needed in the types of jobs for which the apprentices are preparing.

Lifting exercises teach correct muscular movement, throwing and catching bricks strengthens fingers and hands and at the same time teaches dexterity, and even juggling tennis balls helps to promote co-ordination of hands and eyes. Almost every action performed in a normal day's work can be simulated by gymnastic exercise with the result that these actions become less tiring and are accomplished more efficiently and economically.

The boys undergo a daily maximum of one hour's P.T. at the works college, and regular physical examination throughout apprenticeship has shown the value of this form of training.

* * *

Next month, Dr. Elliott Jaques, of "Time-Span of Discretion" fame, replies to Mr. Beech's articles on the subject which appeared in our February and March issues.

TELLUS model XF 120 for large-area floor cleaning.

All FACTORY CLEANING *jobs are simplified with*

TELLUS

Keeping down dust and dirt in factories and offices is no problem at all if you install the TELLUS Suction Cleaner. With its powerful aero-cyclonic suction; high mobility and complete range of accessories for reaching inaccessible places, the highly efficient TELLUS makes short work of cleaning walls, floors, ceilings, girders, pipes, machinery, etc. And TELLUS is ideal, too, for cleaning boiler tubes without the mess involved when soot is blown out. Let us tell you more about TELLUS and show it to you in action.

Write now to:

TELLUS SUPER VACUUM CLEANER LTD

39 Sheen Lane, Mortlake, London, S.W.14 — *Tel.: PROspect 4495|7*

STAFF ADVERTISING CAN BE QUITE A JOB!

But you are relieved of most of the work when Austin Knight Limited take care of it. Many years experience in co-operating with Personnel and Staff Managers has enabled us to evolve a unique system which is both effective and economical. It is a system that relies as much on "Service" as it does on any other of its features.

We know and deal with practically every newspaper and trade and technical journal in Great Britain, and with many publications abroad. Our clients, which include many large industrial and commercial companies, find our way of working the best they have experienced. May we send you full details or arrange for an executive to call on you?

Austin Knight Ltd

Incorporated Practitioners in Advertising

212a Shaftesbury Avenue, London, W.C.2

TELEGRAMS: KNISERVE, WESTCENT, LONDON

TELEPHONE: **TEMPLE BAR 7801** (8 LINES)

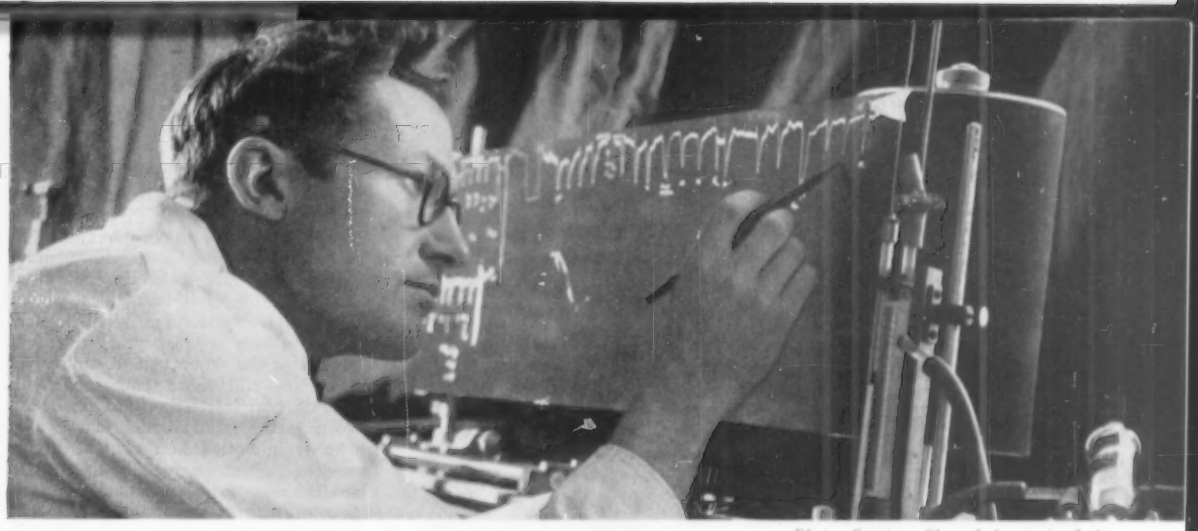


Photo: Courtesy Glaxo Laboratories Ltd.

INDUSTRY'S NUMBER ONE PROBLEM

The Struggle for Technologists

—*Are British Firms Doing Enough?*

Unless British industry can in the next ten years recruit adequate scientific manpower, the living standards of the whole nation will fall drastically. Here is an account of what a number of firms are doing to attract technical men. It contains facts and ideas which we hope will be of use to industry as a whole.

By DAVID JUDGE

TO the popular Press the scientist is the "back room boy" of British industry: he did us proudly in the last war and we can rely on him today to carry us through. On this last belief, however, the popular idea has received a nasty jolt. Our scientists are excellent but there aren't enough of them to meet industry's demands in the next ten years. Whether he likes it or not, the "back room boy" is coming to the fore, and Britain, not before time, is growing steadily more science-minded.

Last October the Ministry of Labour published industry's demands in statistical form—over 30,000 more science and technological graduates within the next three years rising to an increase of at least 85,000 in ten years' time. This is, of course, a simple way of summing up the demand. Examined in closer detail it means the need for the universities, technical colleges and schools to help industry by providing the scientists, the need for the Government and industry to help the schools and universities by increasing teaching facilities, the need for industry to help itself by training its own scientists and engineers, the need for the Government to help industry by lessening its own demands for National Service, and many other demanding permutations which occur to every industrialist who considers the problem.

Each firm, large or small, if it is a user of scientific manpower sees its needs less as an arithmetical problem than as a general question of making sure that, whatever the future demand may be, there will be enough scientific candidates for the vacancies.

To investigate each British firm's policy for facing the science shortage would be an enormous task. For the purposes of this article seven firms have been considered—two large, two medium, two small, and one nationalised industry—and it has been attempted to approach a cross-section of the industrial field employing the scientist and technologist. The industries include, steel, oil, food, electronic equipment, pharmaceutical products, pumping equipment and transport. Each trained scientific worker employed by these various firms will be of a special kind; specialisation may occur even at university level, but on the whole each firm is dependent upon its own particular skill in fishing the universal graduate pool.

Recruitment for each of them means some form of publicity, some special way of attracting the graduate

What makes it tick?—British Railways' two-year course for graduates in mechanical engineering affords a thorough training in the details of locomotive travel.

who may want to drill oil but is needed just as badly in steel or food production. The larger firms try to catch his eye by bold, full-page advertisements in the national Press. Even if he is not searching the "situations vacant" column he can hardly miss so striking a plea for his services. Smaller firms cannot afford this; they must make do with advertising in the classified section of the same newspaper, hoping that the type of work and conditions they offer will tip the scales away from the more widely known and established companies. It is, for instance, no reflection on Winston Electronics Ltd., in Shepperton, that the sight of their name will mean less to a job-seeking graduate than that of Shell or United Steel.

To overcome this disadvantage such firms approach the Universities themselves, directing their campaigns for the most part to the undergraduates in their final year of study. They know that opportunities and not names are held important by the University appointments boards, and that their needs will be made known to each likely candidate just as fully as those of the large firms.

But here again the larger companies have the advantage to some extent, for they can back their campaign by personal visits to the universities, addressing groups of interested students and interviewing potential employees. This kind of campaign, though, must be handled carefully. To the university mind every form of high-powered publicity is suspect. Almost every graduate is likely to be repelled rather than attracted by a firm which seems to be begging him to work for it. When one personnel manager was campaigning in a university after the ground had been saturated by booklets and brochures from a number of companies, he was greeted by a student with the cynical question: "And are *you* going to give me a glossy booklet, too?" The student may eventually have gone to work for one of the firms who did, but his initial cynicism could at first have corrupted his attitude to his work, his employers and industry in general.

Coupled with publicity some firms offer certain inducements to prospective applicants. These are for the most part incidental to the nature of the industry and prevailing conditions. The established name of a company was mentioned above. For the larger firms this means their "good name," and each of those approached for this survey would rather offer this as an inducement than, say, a sensational salary.

No Financial Lure

British Railways employ about 1,275 staff in the scientific and engineering category. They assess their needs in the next two years to be an increase of up to 400, a demand accentuated by their present £1,200 million re-equipment programme. Graduates entering their two-year training schemes are paid from £609-£719 a year according to age and degree of qualification. This is not a fantastically high salary, even when it is taken into consideration that the entrant may be qualified academically but has still to attain specialised qualification in civil, mechanical, signal or research engineering. What he may expect to earn in a few years' time will of course be important to him, yet firms are still more concerned with offering him interesting and important work in the strong belief that a man who is interested and content in his work is of more use to them than another who has been financially lured. Some firms preferred not to quote a figure for this survey, and added in reply: "We pay a fair salary; as much as the next firm, perhaps a little more."

One of these was Shell. They cannot quote salaries because they are based on a scale of age and qualification. They prefer to recruit young men who have completed their National Service plus a three to four years' university course. They will, however, take an older man who has spent the intervening years in post-graduate research, and pay him a larger starting salary providing that research is connected with the work he will be engaged in for the company.

They, too, prefer to use the work and not the money as an inducement. A graduate considering their prospects will think of the overseas travel, the fascinating processes of oil production, and the opportunity of mixing with scientists from many parts of the world. For Shell is an international company, and it is for this reason as well as the unpredictable nature of expansion in the oil industry, that they cannot give

The old and the new—fifteen years is the estimated term of British Railways' modernisation plan which, for the next two years, needs an extra 400 graduate recruits. Civil engineers like this young man will help to lay the new permanent way.

more than approximate figures of the number of British graduates they are likely to need in the future. About 3,000 are employed at the moment, and of the other nationalities many have graduated from, or done postgraduate work at, British universities. The ultimate claim upon them will come from their own countries and not from Britain. This works in Shell's favour, of course, for the company can benefit just as well from an increase in scientists graduating from, say, Dutch or French universities.

An added inducement in a way is the company's ruling that all promotion is based on merit, none on seniority. When a graduate has attained academic distinction he will not want to remain long at one level waiting for his immediate superior either to be promoted or to retire. But, though this system can be facilitated in a large firm, there is little scope for it in a small firm unless it is rapidly expanding.

Winston Electronics Ltd., employing approximately 100 workers, cannot offer much promotion, especially to scientists, of whom there are at present only four. Any graduate joining the firm can expect a starting salary of between £750 and £1,500 p.a., and for this salary and for the complex work he will do he will be handpicked as an expert or potential expert in two or three aspects of electronic research and production. This small team is able to handle any expansion; no more will be needed to meet any foreseeable future production needs.

Apart from the salary the potential employee can look forward to working in the friendly atmosphere of a small firm, where he is allowed full responsibility and, more important, authority for the work he does, while at the same time he can take any opportunity he needs for direct contact with the managing director.

He will also find financial incentive in his work. Any scientist who plays a major part in the development of a product receives a royalty from sales and this practice continues even after the man has left the firm.

Hayward Tyler & Co. Ltd., of Luton, makers of pumps and mineral water machines, also offer their graduates plenty of responsibility and interesting work as well as a starting salary of about £850 p.a. The company employs 12 scientists at present and requires four more to make the full complement. They recruit by direct application to the universities. Like Winston Electronics they are a small firm, and like them they consider too much store is set by academic qualification. In each firm potential for training and personality are the more important considerations, and consequently all classes of degrees are considered. To the graduate this is extremely attractive: his career will not stand or fall in the examination room. But there is a logical counter-argument from industry's viewpoint in the contention of one London firm of food manufacturers. "Shortage or no shortage," they say, "we certainly would not consider engaging anyone who is not a first-class scientist for a position requiring such qualifications."

An exploitation engineer superintends operations in a Colombian oil field. The exotic attraction of the oil industry, coupled with the company's reputation helps Shell in its recruitment of scientists.

First-Class Degree?

These first-class personnel are engaged on research and new product development. Twenty such scientists are employed at present, including four female scientists. In addition they have 31 studying for qualification, including another three females. For a full complement they require another six. Lesser qualified graduates are offered jobs like routine quality inspection requiring only background qualifications combined with personality, common sense and the ability to mix.

This raises one interesting question: must a first-class scientist have a first-class degree? If not, is there some way of assessing him other than the personality and potentiality factors mentioned above? In any case, the salary of £525-£850 which this firm offers as a beginning does not seem a first-class salary these days even at age 23. If the need for specialised industrial training comes into it, is there an infallible law that a second-class graduate cannot learn as quickly as, or even faster than, a first-class man?

The reason for mentioning this aspect of selection is the belief that an artificial shortage of scientists may be created by the insistence of industry upon first-class degrees. Of the desired 30,000, how many more will gain first-class distinctions without lowering the examination standards, which, presumably, industry would oppose?

For prospecting and the production of oil, Shell requires what it calls "first-class men." But they do not take the degree as a criterion. They are perfectly willing to take "seconds" and "thirds" and develop them to first-class company standards. *Their avowed policy is to recruit men who really want to do the jobs that Shell offers them.*

British Railways claim that suitability for appointment does not depend entirely on academic standards. "Second," "thirds" and even "pass" degrees are acceptable to them, and there is nothing to stop anyone with these qualifications rising to a first-class standard in their training schemes. The only disadvantage is the initial salary paid, which is set according to a fixed scale of age and academic standard. A graduate with a first-class degree

receives more to begin with than someone less qualified, but once training is over salaries are based on merit.

For the man who has hopes of becoming a manager, extra-technological training (in the sales, production, publicity departments, etc.) and an executive development course are an obvious inducement. British Railways do not offer these. Departments outside the scientist's and engineer's field are self-contained, and apart from certain responsibilities which occur in a graduate's training programme, no special arrangements are made for training in managerial techniques.

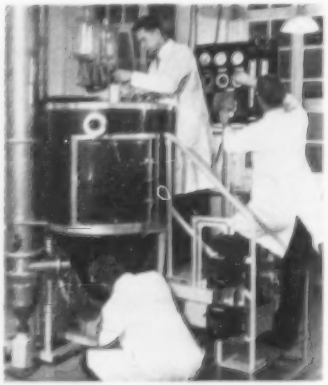
Hayward Tyler, on the other hand, do make use of outside executive development courses, although they speak of managerial training as an occasional practice. The other small firm, Winston Electronics, with a much smaller science department, is content to teach management techniques in the firm. It would obviously be impracticable to send their science staff on courses, and the practice is to let their potential managers "learn by doing."

Authority is delegated with responsibility, arriving at the most satisfactory conclusion to the firm—management based on personal contact. The attraction to graduates here is obvious. A large company because of its size and scope could never emulate it.

Yet Shell, for all its vastness, adheres to a policy of "learning by doing." Its personnel department operates a career planning scheme by which a man's potential is continually noted throughout his career with the firm. His promotion and posting are indicated by the potential he shows, and a research chemist may in time find himself in control of marketing, provided he is willing to undergo that development. There is, of course, management training within the firm at the company's residential staff college at Teddington. Approximately eight such courses are run every year and the men who attend them are aged on an average between 35 and 40 years. Thus the average graduate, aged about 24 years, will spend at least ten years with the company before he undergoes any intensive moulding into management.

In the meantime he is learning all about the firm in both a technological and a general sense.

Whilst dealing with large firms it is interesting to note that United Steel has an active policy of management training. Staff courses are held regularly and the company makes use of the administrative courses at Henley, and management courses run by the British Iron and Steel Federation.



Food manufacture is a highly scientific business, constantly in need of the best graduate brains. Several of the firms concerned make use of the National College of Food Technology where this picture was taken.

Their scientific needs are difficult to assess accurately because, apart from the purely scientific jobs which are done in the industry, men with technical or scientific qualifications are, generally speaking, required for managerial positions in the production and engineering departments as well as the research laboratories. It is estimated, however, that about 20 central recruits are needed annually in addition to men appointed direct at branches. Probably 15 of these would have scientific or technical qualifications to degree standards.

Personal Qualities

A graduate's value to the company is not necessarily related to the class of degree he has. A good degree is desirable, but they look chiefly for what they call "good personal qualities and power of leadership." The salaries they offer are in the same general class of the large and medium firm. Men with first-class degrees can expect to be paid £675 per year on joining the central training scheme, with lesser qualifications scaled down from this. Graduates taking up a direct appointment with the company may possibly be paid a little more.

The central training course consists of a 12-month introduction to the firm in the technology of iron and steel making, company organisation, elementary costing, labour relations, the operation of the commercial and sales departments and similar departments. The science graduate who sees himself in a white coat from the outset may find this a disappointing prospect, but for the company it is the best method of making the most of all the graduate material it recruits, which from industry's viewpoint is inevitably raw.

The firm of food manufacturers mentioned above sees its graduates first and foremost as scientific workers. They will consider executive development courses if the person concerned shows signs of management potential in addition to his scientific ability. They also provide, at the firm's expense, opportunities for further study in various specialised fields.

In this respect much use is made of the facilities provided by the National College of Food Technology in London. Founded in 1951, this is the first and only college which makes the food industry its exclusive concern. Its technical research and production courses are combined with those on the general problems of management. Assisted by the Food Manufacturers' Federation, its Vacational Training Scheme provides postgraduate and diploma students with industrial experience during their vacations.

One of the 23 food manufacturing concerns participating in the scheme is Glaxo Laboratories Ltd. Their main concern, however, is pharmaceutical products for which, of course, they employ a large number of research workers. No actual figures are obtainable but they have only a few vacancies at present. Of those scientists employed the great majority are engaged in laboratory work. There is little scope, therefore, for extra-technological training, but where they are needed external residential courses are used. One useful aid to recruitment is the wide reputation of the company coupled with the belief that if the graduate is considering a career in chemical research, he will instinctively feel that research on fine chemicals is of compelling interest. The firm wants mainly first- or good second-class degrees, preferably followed by a Ph.D. in chemical research, and they add: "It is advisable that the candidate should follow graduation with studies for the doctorate rather than seek employment and study for the higher degree later." This might repel many graduates who consider themselves ready to undertake their careers without further delay, but Glaxo are dealing for the most part with a particular type of scientist to whom post-graduate

research is something of a "Mecca."

For other degrees the company offers work in plant management and control, and here they run fairly lengthy induction courses in plant production.

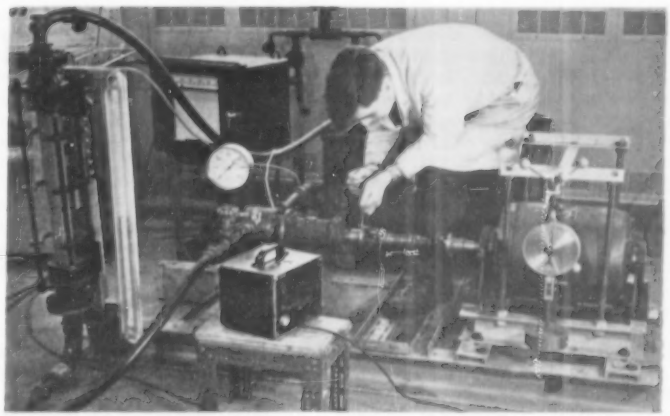
They envisage a scramble for scientists in the future, but to them there has always been such a scramble, and their long-term plans to combat the shortage are already in operation. They believe in a policy of making science attractive to the boy and girl in school *before* they are ready to choose between the arts and science streams. This campaign on behalf of the sciences is concentrated upon the head teachers and the careers and science teachers. Close liaison is built up between Glaxo branches and the schools in those districts. Conferences and "at homes" are planned, and education committees are contacted.

Shell, too, is intent upon tackling the problem in its early stages. The sole object is to divert children with aptitude into the science stream. They also run conferences and exhibitions and arrange tours of their plants and laboratories, all designed to show science masters the end-product, the culmination of science teaching or "connection between the test-tube and the oil-drum," as Shell puts it.

Like United Steel and Glaxo, they contribute to the Industrial Fund for the Advancement of Science in Schools, helping to provide and equip school laboratories and to make it less possible for science to lose by default. In addition they give financial assistance to universities. The sum of £20,000 was recently given to the geology department of Reading University to assist in establishing a laboratory in sedimentology, and the Cambridge Chair of Engineering which Shell endowed with £500,000 now provides 60-80 new scientists every year.

United Steel believe in making a scientific training available to their employees. Thus apprentices are recruited at 16 and 18 years of age for professional training as metallurgists, engineers and chemists. In many cases these apprentices subsequently obtain university degrees.

Apart from the problem of shortage, there are other peculiar problems which vary from industry to industry and from firm to firm. The most interesting and probably the most important that has arisen is the difficulty in finding scientists who can make their conclusions and recommendations intelligible to the laymen in production management. **This is a hindrance in production, but from the human relations point of view it very often leads to a sense of frustration and discouragement on the part of scientific personnel.**



The smaller firms, as well as the large, are eager to recruit top scientists. This graduate at Hayward Tyler & Co. Ltd. is one of the key men in the research and development of pumping equipment.

Another source of discouragement is the amount of routine work found in industry. Some firms claim it is extremely difficult to find scientists who can forgo occasionally their natural craving for interesting and absorbing work to occupy themselves with the vital routine.

Wasted Manpower

Where this routine means committees and desk work, the scientist occasionally makes his complaint known with lamentably small effect. Too many top scientists, it seems, are still undergoing this ordeal which leaves them little time for active scientific work. If it happened on the shop floor it would be considered an appalling waste of manpower. Why not in the laboratory?

With United Steel the problem is geographical. They are managing to recruit their fair share of the scientists and engineers available, but they have detected a general reluctance to work in the north of England. This can only be solved by a more imaginative approach to building and amenities by local authorities coupled with industry's own enlightened community relations policy.

To the managing director of Winston Electronics, the shortage of scientists is not as important as the shortage of salesmen who can sell industry's products abroad with scientific language. Few customers are likely to buy unless they are given detailed technical answers to their own searching questions. That shortage, he says, has been overlooked.

With these individual difficulties and the universal problem of the shortage to face, industry is not sitting idle. Yet it must be admitted that nowhere does the investigator find the sense of urgency he expects. If industry has been worried by the Ministry of Labour's revelations it is certainly not showing it.

Occasionally a despondent note is heard when industrialists comment privately on silk purses and sows' ears. Is there in fact a point beyond which we cannot go in producing science and engineering graduates from the educational hat? Is it possible to create more than we do at present of the calibre needed so urgently by British industry? Setting aside all the pros and cons, it is enough to say that if we can't do this we are lost.

Perhaps there is a slight, unpublicised atmosphere of confusion. An undercurrent of "Whose job is it to worry—industry's or the Government's? And if the situation is as serious as they say, would they be *asking* me to do this? Wouldn't they be *telling* me?" Admittedly, that is how things were done in wartime; but it would be disastrous if it required total war to force us to change our ways.

This attitude, if it exists, is linked very closely with the general social

(Continued on page 32)

some controllable factors within the operatives were dissatisfied with the directly due to the rumour. It amounted

These Training Charts Measured Morale on the Shop Floor

How a biscuit firm "plotted" its way to better output and improved relations with its workpeople

IN October, 1955, Peek Frean & Company decided to transfer to another factory one of their biscuit-packing operations — viz.: individual hand-packing of assortments into a corrugated paper container. The problem was to train quickly both new labour and supervision to carry out this work.

Job breakdowns for the work were already in use at the Bermondsey headquarters and these were sent to the factory with a Peek Frean trainer. The value of training charts was already well established at the firm and it was, therefore, decided to record graphically the progress of all the women operatives on each of the three shifts. This recording was begun by the trainer who calculated daily the average hourly rate of packing for each operator and plotted the figures on squared paper.

As was expected, the individual charts proved invaluable in assessing correct selection; the finger-dexterous operatives, suited to this work, were quickly revealed while those unsuitable were recognised and transferred to more suitable work. The trend of the individual charts also provided the trainer with the key to setting a daily target for each individual and, therefore, promoted reduced training times.

However, expression of performance in this way quickly revealed more advantages than those commonly associated with training charts. Fig. I, curve A, represents a smoothed mean of the graphs obtained and may be regarded as the ideal curve which would be achieved by a learner of average dexterity unaffected by any side reactions. Supervision, having become

By K. G. ETHERIDGE
Peek Frean & Co. Ltd.

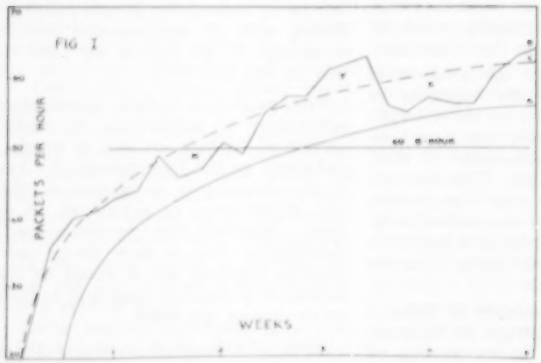
conversant with this typical parabolic learners' curve, was encouraged to participate in examining the reasons for any deviations from the "ideal curve."

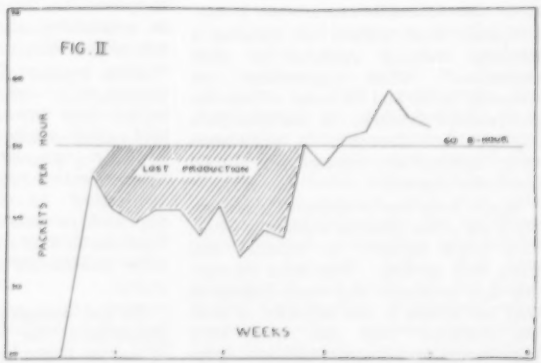
The daily examination of the graphs soon showed that variations of less than two packets per hour were not significant but that greater deviations from the ideal curve for the particular operator were worthy of study. Variations in isolated graphs, or "individual trends," were found to have a close correlation with the character and domestic circumstances of the operator concerned.

One graph showed a regular drop in rate of working on Wednesdays of each week. The explanation was that this worker, with a family of three children, did her housework on Tuesdays and, indeed, had complained of tiredness on the following day.

Another graph exhibited persistent large fluctuations quite unlike any other. It was given by an operative of Spanish nationality, with Latin temperament and little English; the graph was smoothed, however, by transferring this worker to a machine-wrapping job where the need for consistent speed was visibly demonstrated by a pile of unwrapped packets and where little English was less of a handicap, the conversational opportunities on the machines being fewer.

Nevertheless, it must be admitted that individual trends, whilst capable of interesting correlation with personal factors, seldom proved controllable. However, where the same trend, up or down, was exhibited by a number of individual graphs—a "general trend" —investigation usually traced it to





some controllable factors within the factory. This is illustrated by the individual graph marked B in Fig. 1.

The operator was a woman previously employed on other finger-dexterous jobs and the mean curve expected during her learning period is represented by line C. In the operator's actual curve two depressions will be noted, zones X and Z. Comparison with other operators' curves showed these zones to be a general trend among those of above average speed. The remainder of the operatives on this shift were giving curves considerably below average and investigation, when zone X appeared, revealed that the faster operatives had been persuaded to go slow by the slower operatives.

Once management had become aware of this human relationship problem a bonus was introduced and an announcement made that those failing to reach a given performance in three weeks would be transferred to other work.

Immediately there was a marked rise in performance, as shown by zone Y in the faster operatives' curve. This continued until suddenly all graphs showed a rapid drop, indicating another problem. The new supervision had, by this time, gained experience in the use of these graphs and had taken over the recording. Indeed, they drew attention to this drop in performance and offered the explanation that the operatives were dissatisfied with the cash value of the bonus. After investigation an appropriate increase produced a rapid rise to the level of the ideal curve.

A further illustration of the value of training charts as a means of detecting feelings on the factory floor is provided in Fig. 2. This shows the progress of an employee who was skilled on other packing operations and was transferred to packing a biscuit assortment. Her initial progress was rapid but a decline set in which was noted as a general trend among the other packers. Investigation traced the drop to a rumour that those who got on well with the new packing job would stay on it and not be transferred back to their previous regular work when it again became available.

Effect of Rumour

There had obviously been poor communication down the line and when this was remedied by an assurance from the management on the duration and temporary nature of the transfers, there was an immediate increase in production. It is interesting to note that these temporary packers maintained their production at about a 60 B hour (a bonus scheme had not been introduced at the time) and it was therefore possible to estimate the packing loss directly due to the rumour. It amounted over the department of 20 part-time employees to approximately two tons of biscuits not packed—a dramatic representation of what poor human relations can cost!

On work where output depends entirely upon individual performances, it was considered essential to continue recording even when training was complete otherwise, taking an average performance figure—judged by output figures, a drop by some operators could be masked by an increased output from others.

However, it was found that, with a growing department, the amount of time taken to compile the graphs was too great. Therefore a method was sought which would speed up the preparation of individual records of performance whilst retaining the advantages associated with a form of visual representation. It was decided to eliminate the calculation of average hourly rates of packing and to record the total number produced in the working period—a figure already required for bonus purposes. Since it had been found that variations of two packets per hour or less were insignificant and since the shifts were four- or five-hour periods, the performance recorded was taken to the nearest ten

(*Continued on page* 41)

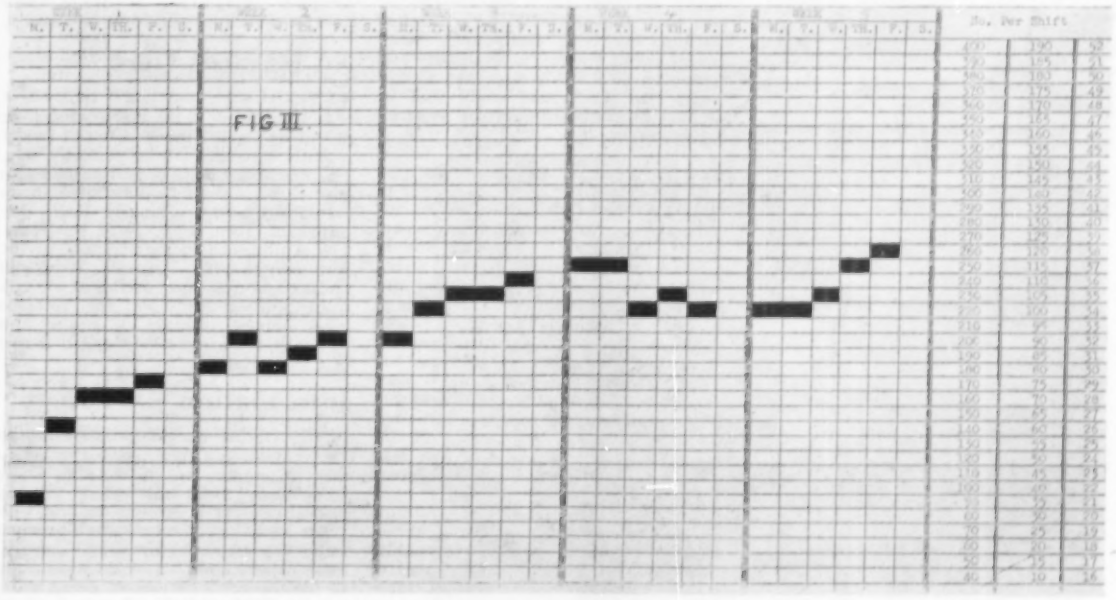


Figure 3 represents the performance of the same packer represented by line B in Figure 1

Management News and Ideas

Automation—"Distressing Nonsense"

"A GREAT deal of nonsense is being talked about automation. Some of it is rather distressing. The fact is that you cannot do away with the individual. No matter what a robot can be made to do, it is not capable of original thought."

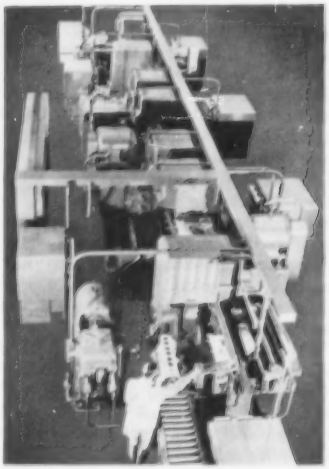
So said Mr. T. E. Goldup, C.B.E., vice-president of the Institute of Electrical Engineers, in a recent speech entitled "The Role that Scientific Research Can Play in Assisting Management."

"Most people think of research as something quite new," he went on. "But this is not so. Research, in fact, started with the Creation. When Adam and Eve discovered in the Garden of Eden that they needed clothing to cover their bodies, quite a bit of research had to be carried out to enable them to find the right materials to use and which part of their bodies to cover."

Discussing the research laboratory itself, Mr. Goldup explained that one of its features should be the establishment of a congenial environment for the staff, together with an intelligent, sympathetic and aggressively thinking management.

The research scientist's role was that of an adviser and guide in the formation of future policy, a stimulant to greater effort and one whose duty it was to circumvent unwise decisions. In real fundamental issues he must inspire the management regarding the future, giving an insight into the quality of the work engaged in.

"The wealth of Britain," he concluded, "is not tied up with the value of the pound, but with the quality and quantity of her technical personnel."



No "distressing nonsense" about this, taken at Ford's Dagenham factory. The machine supplies the brawn; the man supplies the original thought.

Machine Minded

THE new skills needed for the automatic factory of the future, and the changing role of the trade unions in this development are two of the problems of human relations to be considered under the heading, "People in Production" in the forthcoming conference on "Automatic Production—Change and Control."

The conference which is organised by the Institution of Production Engineers will be held at Harrogate from June 30 to July 3. The programme will be divided into four principal sections including the personnel aspect—the planning, the programming and the processes of production. It is planned to present a variety of case studies during the conference.

Telling Points

A DUDLEY firm has introduced the metric system into its accounts in order to simplify the work of the staff. The firm, Joseph Gillott and Sons Ltd., makers of steel pens and precision pressings, has retained the usual £ s. d. system only in the presentation of the final total on invoices.

Otherwise the £ and d. signs have been done away with. Instead, figures and sums have been confined to decimals of a gross and a shilling. Two dozen is now shown as .167 gross, and 2d. as .167s. To take another example, nine dozen has become .75 gross, and 9d., .75s.

Clients and workpeople have been given special leaflets and conversion tables, and the managing director, Mr. Nicholas Gillott, reports that the innovation has proved highly successful. One benefit has been that it has allowed the firm to standardise its accounting machines to cope easily with small numbers and prices—in decimals—and figures up to 9,999 gross. Mr. Gillott thinks that the system could well be adapted by firms with similar accounting problems.

Managerial Move

THE headquarters offices of the British Institute of Management and the Institute of Industrial Administration, at present at 8 Hill Street, London, W.1, will be transferred this spring to specially planned premises at 80 Fetter Lane, E.C.4. The move, which is part of the scheme for reorganisation of the two bodies into one institute, will take place in the latter half of May. The Institute of Personnel Management, which is an entirely separate body, and is at present occupying part of the premises in Hill Street, will also take offices in the new "Management House."

In Fetter Lane an existing building is being completely modernised internally and will be specially adapted to house the 140 members of the staff of B.I.M. and I.I.A. The staff of Management Publications, Ltd., publishing branch of the two institutes responsible for "The Manager," "British Management Review" and for the many handbooks and reports on management subjects by B.I.M., will also be housed in the same building.

Lay-out of the offices in Fetter Lane will give effect to a new organisational structure resulting from the projected complete integration of B.I.M. and I.I.A. which came into force on April 1.

No Hazards Here

WORKERS handling radioactive materials in the fast approaching atomic age which the Minister of Power recently forecast, will be perfectly safe. The precautions which will be taken to ensure this are to be illustrated in an exhibition held at Bingley Hall, Birmingham, from June 14-21 this year. The exhibition is being arranged by the Birmingham and District Industrial Group, and organised parties of workers from Midland firms will see, amongst other things, displays of health and safety in the atomic field and a model of Calder Hall.

Information Exchange

THE United Kingdom delegation to the eleventh International Management Congress, to be held in Paris from June 24-28 this year, will be responsible for a session dealing with "The exchange of information between trade associations, firms and government departments." A world-wide study of the subject is at present being made by the BIM and the chairman of its study group, Professor F. Sewell Bray, will act as general *rapporteur* for the session.

The congress will be opened by M.

PERSONNEL MANAGEMENT PICTURE STORY

Louis Armand, President of the French National Railways, and the closing address will be given by Mr. Henry R. Luce, editor-in-chief of Time-Life Incorporated, who will speak on "The position of scientific management—its importance and its place in our civilisation."

Therms for Easter

THE Easter vacation just ended has meant for 33 public schoolboys from various parts of Britain an insight into the workings of the gas industry, as well as the many worthwhile careers it offers them. The boys, aged between 15 and 19 years, were chosen to spend one week on the first "Short Works Course" sponsored by the Gas Council in collaboration with the North Thames, Eastern, South Eastern and Southern Gas Boards.

The course included lectures, film shows, informal discussions and question times. There were also visits to gas works, training establishments, research laboratories and industrial and commercial concerns where gas is widely used.

Holidays With Ease

SOON the holidays will be with us, and whether they are spent in Monte Carlo or Margate they will, no doubt, be well earned, particularly for the personnel and department managers responsible for the complicated process of fitting every member of staff on to the holiday roster. A personnel holiday chart is now available to make this task much simpler.

It consists of one sheet (25 in. x 20 in.) on which are displayed five squared areas to denote the months from May to September. Each month is divided downwards into five full weeks and into sixteen sections across, which can be subdivided to allow for entering the names of 32 or more staff who will be on holiday in any one week.

The charts provide a readily accessible check on the numbers absent during the holiday period, and by using different colours for different departments a complete, compact reference can be centralised for the entire company's staff. The cost is 5s. 9d. each with reductions for bulk orders, quantities of 25 or more costing 5s. each. From Shaw's Office Services & Supplies Ltd., 109-119 Waterloo Road, London, S.E.1.

Varsity for P.M.s

A DIPLOMA in Personnel Management is once more available to graduates, holders of a diploma in Social Science and other candidates with industrial experience. The course, now in its fifth year, will be held during the coming academic year at the University of South Wales, Cardiff.

The syllabus has now been changed to allow students who have already graduated in one of the examination subjects—personnel management, industrial relations, and general, social and industrial psychology—to take an alternative course in either elements of English law, industrial economics and management accountancy, social administration, or social philosophy.

Teaching is mainly by seminar and individual tutorial, and the numbers are therefore restricted to not more than 15. Application for the coming session should be submitted not later than June 30.

The sessional fee is £30, plus normal Union and Library fees and travelling expenses. A charge of one guinea is made for the diploma.

Catalogues Required

THE college librarian, Birmingham College of Technology, requests manufacturers to send all catalogues and trade lists to the following address: College Library, College of Technology, Gosta Green, Birmingham, 4.

PERSONNEL APPOINTMENTS

When **DR. E. R. A. MEREWETHER, C.B., C.B.E.,** retires from the post of H.M. Senior Medical Inspector of Factories on August 31 next, he will be succeeded by **DR. SIBYL HORNER,** who has acted as Deputy Senior Medical Inspector for nine years.

Personnel officer for the new Ashford, Kent, factory of Batchelors Peas Ltd., is 37-year-old **Mr. V. J. Burden,** who, until the factory goes into operation, is assisting the personnel officer of the company's factory at Wadsley Bridge, Sheffield. Before joining the firm in 1955, Mr. Burden had a total of 20 years' experience of various departments, including personnel and sales, in companies associated with Unilever Ltd.

Office Automation . . . . .

AT their Battersea headquarters, the Morgan Crucible Company recently carried out a training programme so that their accounts staff could make the transition from punched card to computer operation with the minimum of fuss and bother.

It is here that for the first time in British industry a standard make of electronic computer has been put into daily operation on purely routine accounting work, and its installation follows three years' investigation by a Morgan team.

It is estimated that the machine—a Hec Computer, by the British Tabulating Machine Company—will pay for itself in five years. At present it is being used to prepare and analyse the pay-roll, but is shortly expected to be used also for the preparation of customer statements, invoice analyses and stock control. It will also carry out mathematical work for the company's Central Research Department.

*The **HEC** electronic computer installed by Morgan Crucible Co. Ltd. The machine on the left handles punched card input and printed output. On the right is the control console.*

▲ DOLF MORATH'S career in

WORKPEOPLE

Through the Eye of an Artist

Studies in Human Industry

Adolf Morath (who took these pictures) at work. Morath brings more to his work than merely the ability to click a camera shutter. His pictures are a visual record that the camera is no longer looked on as a poor sister of the palette. The author of several books on photography, Morath also contributes extensively to the photographic press in Europe and America, and acts for a number of leading British firms as well. He has a special feeling for the human side of industry as these pages show.

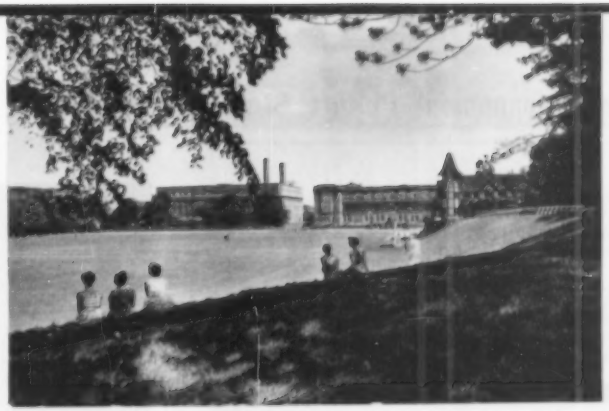
ADOLF MORATH'S career in photography began as a boy in Cheshire when at the age of 12 his father gave him a "box" Brownie for Christmas. Today he specialises in colour pictures for industry but, as these pictures show, even in black and white the technique and feeling of an artist is vividly apparent.

In an age when plant gets bigger and workpeople dwindle to the background, Morath reverses the trend and brings the men and women back into the limelight. It is as if his pictures are saying that people made the machines and that we must never forget it. On any job he will wait tirelessly for what he calls "the dynamic moment" when that most typical of the man and his work is expressed at the same point of time. Or to use his own words:

"Whenever I go on an industrial assignment I survey not only the machines and installations, but also the human faces, their expressions, movements and rhythms, and combine all that I see, both men and machines, into one complete picture."

Morath's insistence that human beings should be in the picture has meant a good deal of hard slogging in the past few years. He shares the hazards of the workers to get what he calls "the rhythm of the operation." And this often means starting the assignment by putting his camera aside and putting on the dungarees of the oil rigger or the metal-capped boots of the steel-worker.

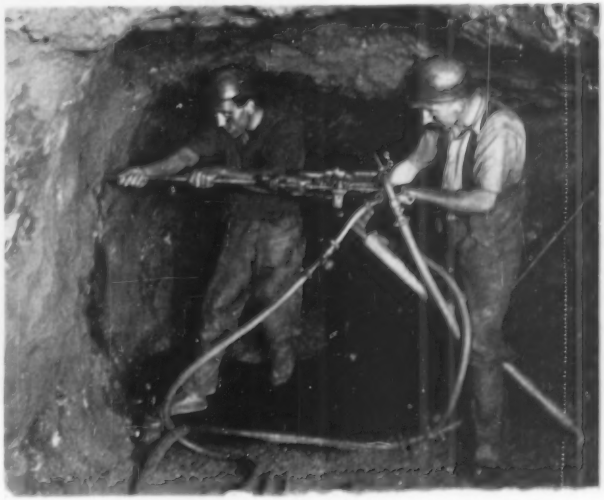
On the subject of industrial photography as a means of improving human relations, Morath has very definite ideas. When workpeople are selected to be photographed, they get a sense of pride



A summer day at Bournville. Playing fields and trees and girls in gay dresses—a reminder that industry need not be dark and ugly.

Sampling steel at Stewarts & Lloyds Ltd. Skilled hands, sharp eyes and a fountain of revealing sparks.

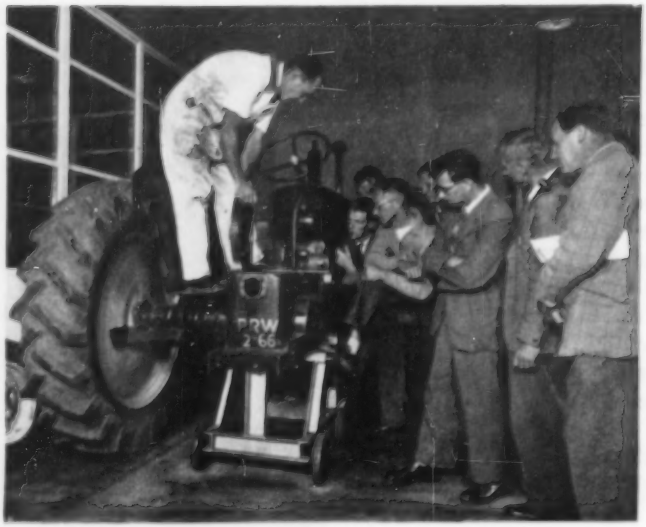
Working alone in the depths. A study in concentration of miners in the Beckermet Iron Ore Mine in Cumberland.



A man who matters ! Portrait study of an atomic engineer taken in the middle of December at the atomic power plant in course of construction at Dounreay in the North of Scotland.

Thy honest, sonsie face ! Study of a North of England steel-worker got by engaging him in conversation and, then, without warning firing six flash bulbs.

The heart of the matter. A conducted tour round the Massey-Harris-Ferguson tractor school at Coventry.



in themselves and their jobs. The camera makes them feel that they matter and they should always be given copies of the print even though the picture was taken for quite different reasons. Today, he says, more and more managements are coming to appreciate this fact.

Morath has already done assignments for some of the largest British firms engaged in mining, oil refining and steel production, but it is always his proviso that he must have a free hand to depict the men and women as he sees them. The results amply bear out the saying of Confucius that a picture is worth a thousand words.

Social Activities Are our Responsibility

Readers' Views on the Role of Personnel Managers

IN the January issue I quoted a reader's letter which asked whether I thought the organising of a children's Christmas party should be part of his duties as a personnel manager. In the course of the discussion I asked readers two questions. What is the proper relationship of the personnel department to social and recreational activities and what, in their opinion, *are* the functions of a personnel department?

As a result I have received a large number of most interesting and stimulating letters. Most correspondents answer both questions, but for the sake of clarity I am going to deal first with the wider issue of the function of the personnel department, and then see how the "social secretary" aspect of the job fits into the picture.

We have wide agreement on the principles on which the work of a personnel manager should be based. A Mr. J. A. Pritchard (who does not give his address) puts it most succinctly. "The principal objective of every personnel manager," he says, "must be the same, namely, that every member of his establishment enjoys going to work and gives of his or her best. All other aims and ideals, whether practical or pure theory, are subsidiary to this over-riding objective."

Mr. Douglas Gourlay (59 Pierremont Gardens, Darlington) is thinking along the same lines when he says: "The chief function is the inter-relationship of management and men. Without intruding into those matters within the legitimate scope of the trade unions, the personnel department should work to eliminate the conception of 'our side and theirs.'"

Mr. J. W. Whitaker (32 Moredun Park Grove, Edinburgh, 9) agrees with this. He says: "The most important aspect is the gaining and maintenance of the employee's favourable attitude of mind towards his employers and place of work."

All correspondents are agreed that a healthy social life in an organisation makes a big contribution towards these better relationships and that therefore the personnel manager cannot divorce himself from this aspect of the firm's life. He need not, however, do the actual administration work involved. As. Mr. R. B. Boynton, personnel manager of Reynolds Light Alloys Ltd., puts it:

"What a personnel department is asked to do over and above its normal functions is one of the things that go with the job. If it was not so, the personnel manager would not know about many things that happen even though they are not concerned with his department. Whether he does these things is a different matter altogether. His job is to direct the job where it belongs. How he does it depends entirely on his technique. If the managing director asks him to organise the children's party, well, after all, he is the managing director and as such expects it to be done. Of course the personnel manager should not organise the party; he should only pretend to. If there is a sports and social committee, a works advisory committee, or married foremen, they will, as suggested in your article, do this job with pleasure. If they are given the authority and importance by notices, etc., all they need is a scheme to work to, and that can be done at one meeting. The personnel department is expected to make 'phone calls and write letters for them, because they have not the facilities, but that does not make the personnel manager the social secretary. It only makes him the bloke who, with a bit of luck, will get the credit if the function is a success.

"In my opinion, the social activities of a company and its employees are part of the structure of human relations, and give the personnel manager a clear insight into the character of his flock."

Mr. Whitaker says the organising of a children's Christmas party "should present an excellent opportunity for fostering good relations." I quote Mr. Gourlay in support of the same idea:

"Social activities are but a facet of inter-relationship. When employees of the same firm enjoy a large social life, a spirit of mutual goodwill is engendered which is of inestimable benefit to the firm. This naturally involves the personnel manager in the social secretaryship which seems to trouble your correspondent. It should have been his department's duty to have a works committee ready for full participation in the planning and organisation of all activities. Events are more successful when the men rather than the management make the main contribution."

Mr. A. H. McLean, chief labour officer, British Insulated Callender's Cables Ltd., is quite emphatic on this point. He writes:

"Dealing with the question of whether it is the duty of a personnel manager to organise a children's party, my own reaction is that it is. Quite naturally, it should be left to the personnel manager to delegate some responsibilities to others, preferably a committee of employees, but such a committee cannot function without guidance as to when and where the party shall be held. Most important of all, how much has been budgeted by the company for the function? My own experience after many years has proved that one of the simplest and sincerest forms of human relations is management's declared interest in the children of its employees."

Specialist Viewpoint

Mr. David Murray, of Murray-Ward Productions, gives us an interesting and different slant on the question, that of a manager of a firm specialising in entertainment for industry. He writes:

"Your Discussion Leader in the January issue interested me greatly because, sitting as we do on the other side of the fence, I am able to state that personnel managers are by no means automatically 'social secretaries.' I have to admit that the majority of our inquiries emanate from the personnel department, but there are many exceptions.

"I can think of one firm where the annual staff dinner-dance is handled personally by the managing director. He engages the band, selects the cabaret acts, chooses the menu and, assisted by the company secretary, is the busiest man in the hotel on the night of the function. At this same works, however, arrangements for the annual children's party are handled by the works manager who is assisted by a workers' committee.

"I could think of several firms where the managing director takes a personal interest in social arrangements . . . and I often think an executive is chosen for such duties because of his flair for organising social events."

No P.M. Decalogue

I received, however, a much more blurred impression of how the principles of good personnel management, described earlier on this page, should be carried out in directions other than this social one which we have just described. For example, Mr. Pritchard says: "Although the Institute of Personnel Management offers principles for the guidance of top management, its officers are the first to admit that a uniform list of personnel management duties is quite impracticable." Mr. Whitaker also confines himself to generalities on this point. He says:

"Other specialists such as accountants, engineers, etc., deal with the economic and technical aspects of the business, but the personnel manager is more directly concerned with human relations and he, more than any other specialist, can convey to the workpeople that they are not regarded merely as cogs in a wheel but as individuals whose opinions are important to the wellbeing of the firm and of the community."

A brave attempt to analyse and explain the function of the personnel manager was made by a reader in Essex who calls himself "Personnelite."

"I am a member of the Personnel Department of a very large organisation. The company has one of the most up-to-date social clubs catering for numerous sports and recreations. In addition, there is a welfare officer, whose duties are most comprehensive.

"The club is managed by a full-time secretary, and does not come under the Personnel Department. The welfare officer is something of a department to himself, but *is* subject to the personnel manager.

"Now, the Personnel Department can be summarised as "Records"—checking the daily history of personnel, and liaison with the Wages Department, with all the queries, problems and policies involved. Works consultation and house organ also come within the direction of the Personnel Department.

"Here we have a Personnel Department so large that it only appears to handle sections, yet the obvious conclusion is that all these functions are facets of one essential purpose, which, in thinking of the Personnel Department as a whole, must be termed *industrial relations*.

"True, that these functions might well emerge from the Personnel Department which primarily was no more than a records control, but here, perhaps, is the crux of the problem presented in your first correspondent's plaint—the need for the contemplation of all the functions of the department to achieve knowledge, and development of all the factors which will result in a better understanding between management and men. The personnel manager who still thinks *in* terms of "records" and administration must sooner or later fall short of his job.

"'But,' says the P.M. of the small concern, 'how can we hope to achieve the scope of these ideals?' The answer *is* that no man can go beyond the scope of his firm's resources, but so much depends upon his realisation of his true functions. He has our sympathy, but in his limited sphere he has our admiration to the degree in which he approaches the ever-widening possibilities of industrial co-operation at all levels."

Could we have some more contributions on this aspect of the subject? Is it possible, for example, to outline some of the more important steps which a personnel manager in any concern should take to implement the principles which the above correspondents have outlined?

Mr. Whitaker says his personnel manager has more influence upon relationships within the firm than any other *specialist*, but would we reach the same conclusion if we compared his contributions with, say, that of the top executive or a junior foreman? As the manager of the future becomes skilled in the "tools" of the personnel manager's trade, will the need for his personal function diminish or increase? With the country's economy balanced on a razor's edge, how can he best help to increase the will to work, and so boost productivity?

These are some of the questions which I think need further thought.

DISCUSSION LEADER

The editor would like to support Discussion Leader's request for more letters on this topic.

STRUGGLE FOR TECHNOLOGISTS

(Continued from page 23)

attitude that has hobbled our scientific strides for the past 150 years. The point was well made by Dr. B. V. Bowden, Principal of the Manchester College of Science and Technology, in a paper he read to the Institute of Production Engineers last November*, and again in a recent article for the *Manchester Guardian*†. Comparing the development of technological education in this country with that in the United States and on the Continent, he finds us lagging far behind, not in the race (there is far too great a tendency to treat these matters as a sporting event), but in the struggle for survival.

It should fill us with something akin to horror to learn that last year the Technische Hochschule in Delft had as many students taking the equivalent of our degree and Higher National diploma and "sandwich" courses in production engineering as we did in the whole of the country. But, somehow, it doesn't seem to.

Perhaps we are relying on our traditional British common sense to carry us through. But will that common sense tell us to pay our scientists higher salaries (as we recently suggested‡), or to attract more girls through science into industry, which will inevitably mean equal pay?

The plans recently discussed in the Midlands for an interchange of teachers and industrial scientists to show each side the other's problems and needs are another solution, but how long will they take to go into operation? How long will it be before the Department of Scientific and Industrial Research substitutes action for discussion on the plan to create a British national lending library for science and technology?

There is no end to the ideas and the plans for meeting the crisis. The vital question is: How long will it be before they are tested? That the shortage of scientists is high on the list of priorities in every boardroom seems indisputable enough, but the first three years is already ticking away, and taking us how much closer to those 30,000 new scientists?

* The Development of Technological Education in Europe, America and England. 1956 Sir Alfred Herbert Paper. *Institution of Production Engineers.*

† Production Technology. *Manchester Guardian*, February 5, 1957.

‡ Salaries of Graduates in Industry. *Political and Economic Planning.*

People at Work:—

BAD RELATIONS MAKE ABSENTEES

A STUDY of absenteeism among Detroit Edison employees shows that bad relations between employees and supervisors is the main cause. Other interesting findings:—

Most of the absences were caused by many people missing a few days, rather than a few people missing many days. Almost every employee missed at least a day a year.

Higher absence rates were in departments staffed predominantly with women.

Absenteeism paralleled job skills, with lowest rates among the highly skilled.

Lateness varied little among departments, but rose sharply among employees working under unpopular supervisors, revealing a difficult human relations problem.

There was no evidence that lateness or absenteeism was contagious or epidemic.

A curious finding: Efficiency was high among employees high in absences, due apparently to their efforts to place themselves in a less disadvantageous situation.

This is not to say that an office boy will be a better office boy for having attended the ball game.

Here are some typical questions asked in the survey: (1) How are the physical working conditions in your department? (2) Like the way your supervisor handles his job? (3) Like the company's personnel plans and policies: sick leaves, vacation, paid holidays, etc.? (4) Satisfied with your merit reviews for salary adjustments?

Every employee gets a questionnaire at his home and returns it, without his name, to an outside consulting firm. This protects him and makes him feel free to speak his mind. All management sees is a run-down of the results.

Scholarship Girl

THE first of Hoover Ltd.'s engineering scholarships has been won by 19-years-old Miss Vanda Blois, from Harrow County Girls' School. She will spend three years at Southampton University studying for an honours degree in mechanical engineering, followed by two years' instruction with the company.

Three such scholarships are offered annually, each worth £1,900 and tenable at Southampton University, together with four £1,200 exhibitions for diploma courses in technology at technical colleges.

Is Work Study Human?

"STOP-WATCHERS" in industry are not there to watch out for "clock-watchers." This much was made plain recently by Mr. J. G. Barton, assistant administrative manager of Chance Brothers Ltd., in answer to criticisms on the use of stop-watches by work study experts.

The point was raised at a one-day conference organised by the Society of Industrial Engineers in association with the Work Study Society, by a trade union official, whose fear was that "setting work to the second-finger of a clock shows a callous indifference to human relations." Setting his fears at rest, Mr. Barton described work study as an advantage to the worker because it dispensed with time-wastage. Human considerations were very much the concern of the man with the stop-watch, who used this instrument as an engineer would use a microscope.

Perhaps this analogy and any other of its kind is a little too coldly scientific for the subject, but it is surely obvious that any practice used to make production simpler will result in a saving of the worker's energy, and is, therefore, part of industry's contribution to the welfare of its employees.

Speaking Their Mind

COMPANIES with labour turnover problems might take a look at how Garrett Corp. (Los Angeles) has solved theirs, suggests *The Iron Age*. Garrett regards its annual employee opinion survey as the main reason why its manufacturing labour turnover is only 1.3 per cent as opposed to the 3.5 per cent national average. The company has been conducting this annual poll of their 10,000 workers for 10 years now, and finds it a valuable aid in pinpointing sore spots in employee relations.

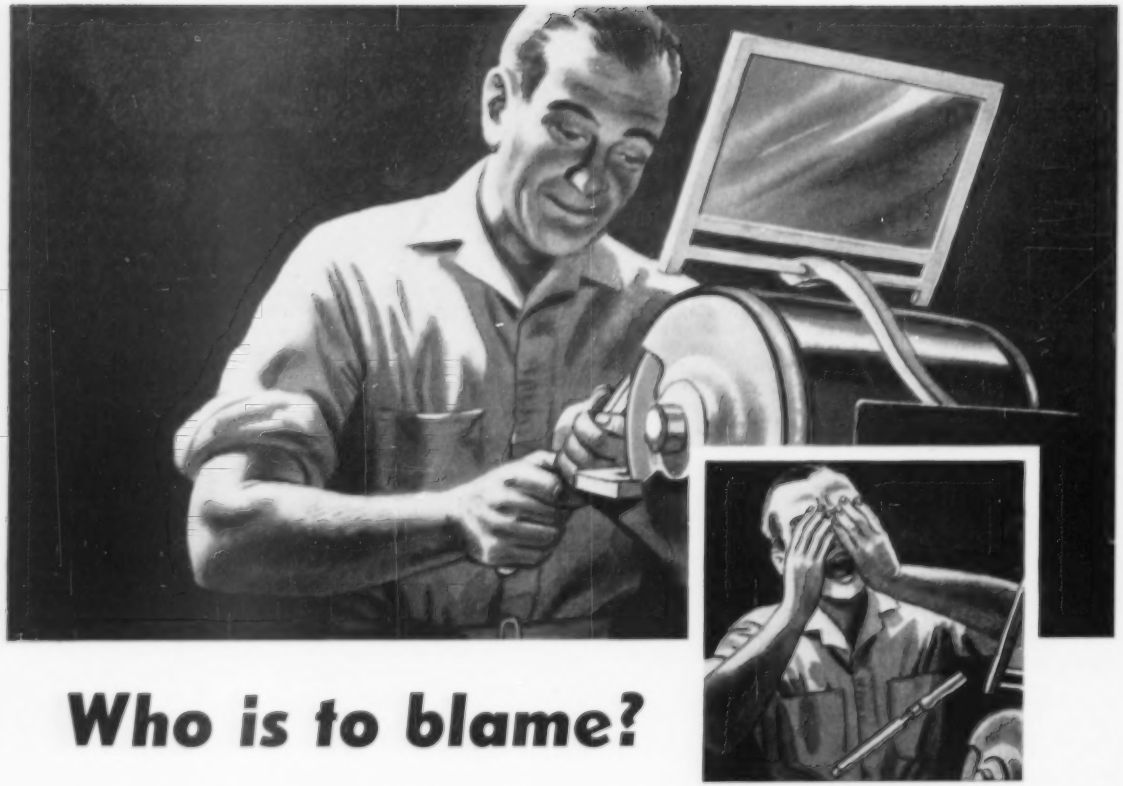
Colour Conscious

THE psychological effect of colour upon the worker in industry and office has now been adapted to the advantage of the typist. Breaking away from the previous depressing choice of dull black or dull olive green for typewriters, Remington Rand now offer coloured top plates as an optional fitting without extra cost, to their new standard, noiseless and electric machines.

These coloured top plates afford a novel two-tone effect, and are in a range of attractive pastel shades. The makers believe that the introduction of colour to the typist's working environment in this way may well help to increase her output, since the shades will harmonise easily with a well-planned office décor.

The firm has also shown itself aware of the increasing technological demands of industry. The need to include scientific and mathematical symbols in typewritten reports has prompted the manufacture of interchangeable types of selected symbols which can be fitted in an instant by the typist. This optional fitting to the Remington standard and electric machines also includes a complete set of foreign language accents to assist in making copies of foreign reports.

Light conscious—part of the luminated ceiling installed by Elliott Brothers (London) Ltd., in their Rochester assembly shop.



Who is to blame?

Is it the employee for not taking the right precautions—or the employer for not driving home the importance of those precautions? It is estimated that more than 200,000* eye injuries alone, are caused in factories every year—the majority of them through carelessness. Everybody acknowledges the need for 'Safety First' in Industry but few put its principles into practice. 16 mm. FILM can bring this cautionary message home with a new sense of urgency. Film can implant such powerful images in the mind that its message will be remembered for years to come. Let film help remove the causes of accidents in *your* organization—let it help save time . . . money . . . and *lives*.

* *Figure given in a recent Home Office report*

FILM drives home the importance of precautions

The G.B. Film Library offers a wide range of outstanding 16 mm. films—films dealing with Accident Prevention, Industrial Management, Sales Training, and many specific problems in Industry today.

A brief selection of 16 mm. films available on Accident Prevention

No. 1.	Organisation	Cat. No. IF.3814	B/W Hire rate 10/-
No. 2.	Machines	Cat. No. IF.3815	B/W Hire rate 10/-
No. 3.	Handling	Cat. No. IF.3816	B/W Hire rate 10/-
No. 4.	Falls	Cat. No. IF.3817	B/W Hire rate 10/-
No. 5.	Safe Clothing	Cat. No. IF.3818	B/W Hire rate 10/-
No. 6.	The Safety Supervisor	Cat. No. IF.3819	B/W Hire rate 10/-
No. 7.	Early Handling of Spinal Injuries	Cat. No. IF.3979	B/W Hire rate £1

Write now for literature and full details

G.B. FILM LIBRARY

Proprietors: RANK PRECISION INDUSTRIES (R.A.F.) LIMITED

DEPT. PM 5, 57 AINTREE RD · PERIVALE · GREENFORD · MIDDX · PERIVALE 7481/9

Today's Ideas in NEW BOOKS ★ NEW FILMS

The Proper Study of Mankind . . . . .

People At Work. John Marsh.
Industrial Welfare Society. 6s.

"IN Time there is nothing either old or new: there is only the rising and falling of the Infinite Tide."

With this quotation and upon that self-same tide Mr. Marsh has launched this collection of essays and commentaries. He has proved his point for there is nothing new in the contents. All the essays have already appeared in print, but it is an advantage to have them reappear in this collected form. There is nothing like the presentation of another man's opinions to stimulate your own, and in the world of personnel management and welfare there can never be too much thought as the driving power of action.

The author warns us not to accept his work as a text-book; his essays are meant as observations, but from a writer with as much industrial and personnel experience as Mr. Marsh such observations may well provide the "stimulus and encouragement" for which he hopes.

He deals with many of the facets of human relations in industry, offering his beliefs and his advice. No personnel manager will find here the answers he has long been seeking, but he may find something which will help him to work out his own solution if only to a very minor problem.

Mr. Marsh has allowed himself one answer, however, on the subject of sound human relationships: "People must understand people better than they do." Nothing could make this less true, but even italicising it as the author does will not make it happen any more quickly.

BOOKS RECEIVED

Management Training in the Building Industry. *British Institute of Management in collaboration with the Board of Building Education, 5s.*

Modern Market Research. Max K. Adler. *Crosby Lockwood, London, 15s.*

FILMS

Industry in Conflict

The Film That Never Was
Running time, 30 minutes.

AN imaginary account of how a Government Department tried to make a film on joint consultation in industry; and of the difficulties encountered. These difficulties arise from the conflicting approaches of the film producer and the management and trades union representatives, and the inability of the Ministry to reconcile their differences. Two attempts by the producer at a story treatment of the subject are shown, but both are rejected as being untypical and unfair to one or other side of industry. The end is an implied question-mark. Are the producer's problems a reflection of the problems involved in making joint consultation itself work? And how can these problems be overcome (since overcome they must be)? The film is intended for use in connection with a discussion.

As a film, this is a first-class piece of work. The viewer's attention is captured from start to finish and the message is dramatically driven home. Its one fault is that realism is sometimes sacrificed for effect. Not all managements, we know, are enlightened progressives but few, if any, are any longer the tough reactionaries depicted here.

Central Film Library. Hire Price 15s.

Sales Techniques

Closing The Sale 30 minutes

THIS is an American instructional film for salesmen which highlights five basic techniques claimed to be the most practical and effective in the salesman's repertoire. Even those who believe that American methods could never pay off over here could with profit study this film. The presentation may be naive but the points illustrated add up to very sound salesmanship which, of course, is a commodity no firm can be without.

G.B. Film Library, Perivale, Middx.

Changing the System

BROOK MOTORS LIMITED have recently organised their own unit for making 16 mm. films, operated in conjunction with the company's publicity and photographic departments.

The first production is a 20-minute black-and-white sound film, "Winding Journey," which covers the methods of work handling at the firm's Barnsley factory. An older motor winding department is contrasted with the electronically controlled conveyor system in the newer factory.

The commentary is spoken by Frank Phillips and the sound-recording was done by United Motion Pictures. Copies of the film are now available on free loan from the publicity department, Empress Works, Huddersfield.

Accidents and After

A LIST is now available from the Central Film Library describing briefly a large selection of films which industry can borrow free of charge. Amongst the films listed are two on safety topics.

The first, **You Can't Be Too Careful** (17 mins.), spotlights the accidents caused by the mishandling of tools in the workshop, and the second, called **At Whose Door?** (12 mins.), is an introductory film on accident prevention. Although it was made specifically for the iron and steel industry, it is designed to provide pointers for safe working in all industries and illustrates the dangers of untidiness, neglect and carelessness, and falling or knocking against things.

A third film, made by Vauxhall Motors, **Rehabilitation in Industry,** describes methods of rehabilitating injured employees who continue to work with the aid of special appliances. It runs for 35 minutes.

Central Film Library, Government Building, Bromyard Avenue, Acton, London, W.3.

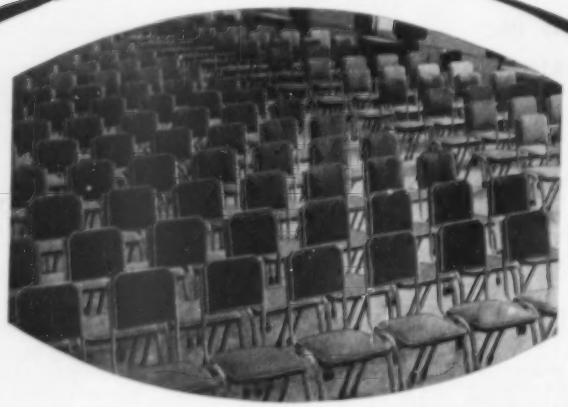
The C.O.I. has published a supplement to its **Films for Industry** catalogue. Nearly 70 films have been added, including two new sections—"Automation" and "Gas Industry"—and there is a full section on work study with a series on the rating of time studies. Thirty-eight of the films are on free loan, and the supplement is available free of charge to anyone buying the original catalogue.

Central Office of Information, Films Division, Norgeby House, 83 Baker Street, London, W.1.

B.T.C. Collection

WITH a handsomely produced catalogue the British Transport Commission is drawing attention to the films and filmstrips available free of charge from its library. These are for the most part centred around the world of transport but there are a number which will be of direct interest to those concerned with welfare, safety and staff relations.

All films can be had in 16 mm. size, and most of them in 35 mm. Copies of the catalogue (price 2s. 6d.) and films can be had from: *Films' Officer, B.T.C., 25 Savile Row, London, W.1.*



New Equipment LIMITED

4 CROXDALE · COUNTY DURHAM

TEL. : SPENNYMOOR 2246/7

CONTRACTORS TO THE ADMIRALTY AND MINISTRY OF WORKS

a fine setting for fine furniture by

Steel Style FURNITURE

We illustrate an assembly hall of a National Coal Board Welfare Institute which we were privileged to furnish. These excellent chairs are sure of a long life. They stack easily leaving the hall free for other uses.

In the Hospital, Industrial and Social Services Fields, the name Steel Style is well-known for good tubular steel furniture—rather better than most. Purchasing Officers are invited to see Steel Style now—or send for a catalogue.

A SERVICE TO EXISTING CANTEENS

Table tops of Formica and Warerite can be supplied to you in a variety of shades, ready for fitting to existing equipment.

FACTORY EQUIPMENT EXHIBITION
EARLS COURT
APRIL 29th—MAY 4th
Come and see us on
Stand No. K78

★ Dawson Dishwashing machines are made for all size canteens, catering for up to 1,000 meals. Descriptive literature will be sent on request.

Dawson 'DELUGE' DISHWASHERS

Clean — without a doubt!

WASHING-UP in Canteen Kitchens

MODERN canteens now handle all the washing up mechanically. The use of DAWSON DISHWASHING MACHINES effects great saving in time, labour costs and absence of breakages. Furthermore all crockery and cutlery washed by Dawson machines satisfies the standards of hygiene demanded to-day.

DAWSON BROS. LTD

DEPT. P.M. · 406 RODING LANE SOUTH

WOODFORD GREEN · ESSEX · Tel.: Wanstead 7777 (4 lines)

I.C.I. Present Their Views on Catering for Large Numbers

By L. BANHAM, A.M.H.C.I., A.R.San.I.

Here is a review of an important addition to catering literature. Compiled by I.C.I., it is naturally directed to the large canteen but there is plenty in it of value for the smaller establishment as well.

THIS manual was first published in 1954 and was compiled by and for I.C.I. staff catering departments. Because of the interest its first publication aroused amongst that section of the catering industry dealing with large-scale cookery, it has now been decided to release a limited number of copies in the hope that these help industrial caterers to achieve greater efficiency. And it is reasonable to expect that a concern such as the I.C.I., with more than 100 canteens and staff restaurants of its own, is in an excellent position to discuss with some authority the problems affecting the day-to-day methods of large-scale and special meal catering.

The manual is primarily a reference work which contains some 500 recipes together with invaluable notes appropriate to each section of the book. There are special chapters dealing with Hygiene, Safety, Waitress Service, Butchery and the like. It should be made quite clear that there is nothing in the book that need over-awe the cook who has taken some technical training such as the City and Guilds Course, No. 151. It is only fair, too, to say that this book merits a place on the bookshelf of the manager of any canteen.

On the other hand, it is also fair to say that the work has certain limitations and that some of its contents will evoke discussion and possible disagreement. Indeed, it is a declared intention of the authors to focus attention on some of the problems to be met in producing an appetising meal at the lowest possible cost.

There are between each of the several sections a few blank pages which the reader is granted for the purpose of making notes or possibly adding further variations to the included recipes. Admirable though this idea might be, I would suggest that the available space could be put to better use by enlarging the scope of the book.

It is fitting that there should be a chapter on hygiene, but it is open to question whether it was advisable that two of the company's doctors should have been chosen to compile this section. With respect, it reads rather like a lecture to student nurses than a guide to the many aspects of maintaining good hygiene in the kitchen. Perhaps someone with a background in catering and some training in hygiene would have enlarged the scope of the chapter and would not have placed undue emphasis on certain features to the exclusion of others.

It might have been better in fact to have allowed the doctors to enlarge the paragraph on special diets which, as it stands, is practically meaningless because of its brevity. There is no point in mentioning the valuable work done by a certain Division of the company unless some elaboration is made of that particular work. Special diets are not limited to peptic ulcer cases alone and for that reason too the paragraph would be better extended or not mentioned at all.

The section on safety summarises without saying anything of real value. This is indeed regrettable for it means that an opportunity has been wasted. It is to be hoped that in future editions matters will be rectified by pin-pointing the dangers and indicating the remedies. This of course would mean an extension of the chapter, but it would be better to offer something of real value in four or five pages than to say nothing in two pages.

The section devoted to Special Catering and a la Carte Dishes is excellent. The problems of providing a restricted service for senior staff and special visitors are common to most canteen and staff restaurants. The notes in this section offer plenty of useful advice and the 150 recipes it contains take one through the entire menu.

Although the Butchery section has been compiled by a member of the I.C.I. staff, the accompanying illustrations are taken from W. J. Duncum's

A TRANSFORMING TOUCH

Flowered screens in C. & J. Clarke's canteen in their Bridgwater factory make a delightful effect.

"A Picture Guide to Dissection for Butchers." It is suggested that the text is intended as a means of identifying the meat in carcase form and that actual butchering should not be attempted by anyone without the necessary skill. It is also suggested that where possible it is advisable to purchase beef by the quarter rather than by joints or cuts from the retail trader. This is fair and reasonable, but for the benefit of those who operate the smaller canteens it ought to be explained that the system of dissection shown and to some extent the nomenclature will vary in different parts of the country according to local butchery practice. It would have been an added advantage to have included sketches showing the indications of sex and age for the benefit of those who buy meat in carcase.

Pellicle Theory

It is indeed interesting to note that in the section on Meat Dishes the following advice is given on the roasting of meat. "The meat should be placed into hot ovens in order to seal the exterior of the joints and thus help to retain the juices, which would otherwise seep out. This sealing process should not be protracted, 15–20 minutes being sufficient, after which the oven heat should be adjusted to permit the meat to cook more gently. The joints should be turned at intervals and well basted in order to prevent the outside surfaces from becoming hard."

The "pellicle" theory dies hard, for it is some years now since McCance and Shipp conducted their experiments which proved the case for using a lower and constant temperature. The I.C.I. have the facilities for conducting experiments of their own within their canteens. Such experiments will prove that a lower and constant temperature will give less loss by evaporation and shrinkage than is the case by the method they describe. The need for frequent basting is obviated too, since the outside surface does not dry out.

The notes preceding the recipes listed in the section on Vegetable Dishes indicate that the author is a person of experience in this field. The retention of the vitamin C content of boiled greens in large-scale cookery is quite a major problem. For some years the Ministry of Food plugged away at the system described as the "conservative" method of cooking greens. Caterers are well aware that the application of the principles involved differ considerably between domestic and large-scale work, to say nothing of the vitamin losses due to storage after cooking and before serving.

The method advocated in the book for conserving the vitamin C content of vegetables is cooking in a short liquid, braising or stewing being the most popular method. Not everyone will agree with this statement, and it will be argued that the enzyme which destroys the ascorbic-acid content must first itself be destroyed, so that the longer cooking process is in fact harmful to the vitamin C content. Yet nothing is more harmful to the vitamin than the common practice of cooking and keeping hot until served. The book might well have made the point, too, that the longer potatoes are mashed and the more thoroughly they are creamed, the greater the loss of vitamin C.

But whatever minor criticisms one can make of this manual, the fact remains that it is a very useful and welcome addition to catering literature. Canteen managers should try their best to get hold of a copy.

Tell Your Customers

CATERERS and canteen supervisors who take the trouble to serve butter with their bread and rolls should have some means of advertising the fact to their patrons. So says the Butter Information Council; which is why they are distributing free of charge to bakers and caterers throughout the country colourful and appetising show cards illustrating the message: "butter is served here."

Canteen officers who want to attract custom by adding a touch of bright colour to their counters should get in touch with the Council at 71-72 Piccadilly, London, W.1 (HYDe Park 9326-7).

SAFETY TOPICS

American Methods

THE "who," "what" and "how" of accident prevention in the United States is presented in a booklet recently issued by the European Productivity Agency of OEEC. Entitled "The Prevention of Occupational Accidents in the United States—The role of the human factor," the booklet is the report of an EPA mission which spent two months touring American industry.

It is not intended as a comparison between industrial safety achievements in the old world and the new, but rather as guide to the principles and general method of application of accident prevention measures across the Atlantic.

Copies of Project No. 338 are obtainable from H.M.S.O., price 6s.

Warning Breeze

ONE item on show at the recent Packaging Exhibition which could readily be adapted as a visual aid was a stroboscopic fan. Designed by Leon Goodman Displays Ltd., the fan is a useful means of ventilation as well as a novel form of display advertising.

A series of different coloured fan blades rotate at very high speeds. The speeds are varied so that as the colours appear and disappear the message is seen behind, remains long enough for it to sink in, and then vanishes.

The most obvious application for this in industry is the safety campaign where familiarity with posters often breeds contempt and carelessness. If the stroboscopic fan were conspicuously placed, perhaps near a dangerous machine or process, the regular appearance of the safety message would serve as a recurrent warning to bystanders—provided, of course, it did not exercise any hypnotic influence.

The design is simple and there are few moving parts to go wrong. The price is approximately £8 and inquiries should be addressed to Leon Goodman Displays Ltd., 119-125 Whitfield Street, London, W.1 (EUSton 5351).

Electrical Safety

THE second training course for electrical installation, repair and maintenance engineers, organised by the Birmingham and District Industrial Safety Group attracted representatives of firms from all parts of the country and covered a wide field of interests, including the use and maintenance of portable tools and the effects and treatment of electric shock.

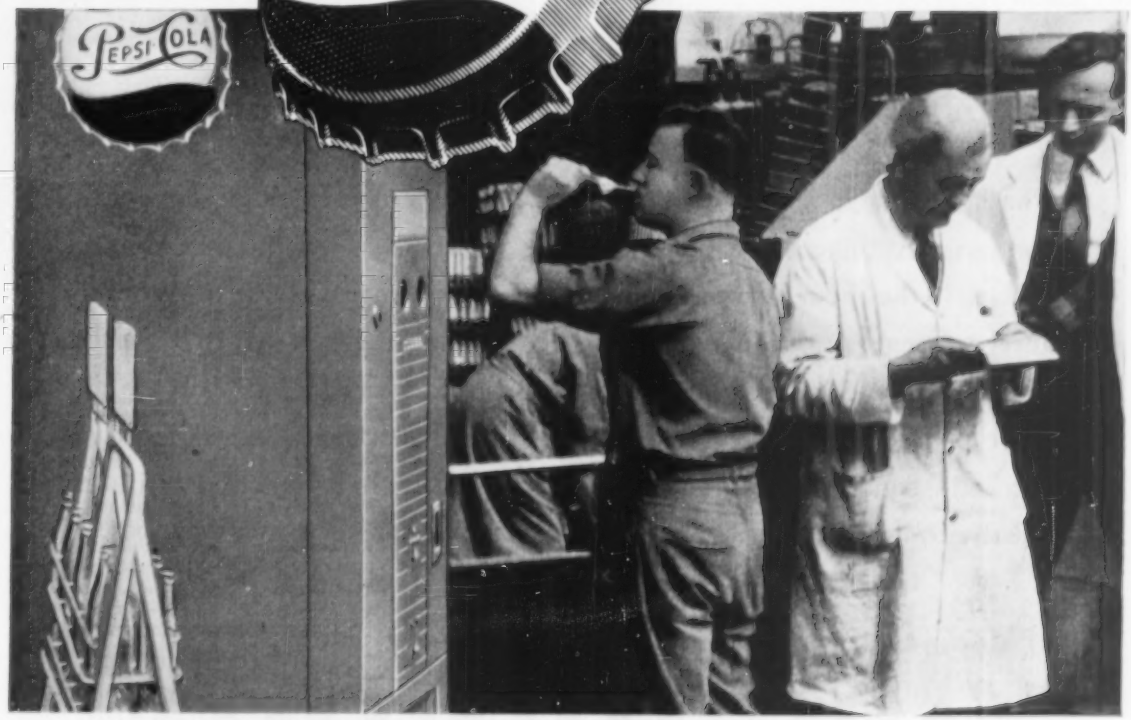
A similar course is planned for August 27-28. Details of this and other courses planned may be obtained from the manager of the Industrial Safety Training Centre, 22 Summer Road, Acocks Green, Birmingham, 27.

At the drop of a coin

PEPSI-COLA

TRADE MARK REG.

refreshment plus!



Automatic Pepsi-Cola venders have become a 'must' in factories and offices throughout the country. Why is this? Because Pepsi-Cola venders improve staff relations *and* increase working efficiency. All over England management confirms it. Everyone enjoys Pepsi-Cola — the drink that's more than refreshing, that gives a lift with no later let-down.

* *Saves time by reducing visits to the canteen or washroom.*
* *Improves staff relations. Workers appreciate the convenience of a vender.*
* *Replaces energy quickly. Ice-cold Pepsi-Cola, high in sugar content, really fights fatigue.*
* *Brings in a steady revenue.*

FREE INSTALLATION · FREE MAINTENANCE

Pepsi-Cola venders cost you absolutely nothing.

They're installed and serviced free.

Each vender occupies only 28" x 26" of floor space, and carries 168 ready-chilled bottles.

For further details write or telephone to:

Pepsi-Cola Bottling Co., (London)
46, Standard Road,
London, N.W.10.

ELGar 2511

A bridge between Industry and Education

It has been made clear in the past months that if this country is to keep its place in the modern world, there must be a great expansion in the flow of specialists into industry. But that is not all. It is the responsibility of both industry and education to see that the training available is in line with modern technological progress.

It is to help solve this problem that *The Times* is producing the monthly publication TECHNOLOGY. In its pages Industry will explain the line of its development, its problems and its needs, while Education will discuss its plans and its difficulties.

Technology

MAY ISSUE ON SALE MAY 3

PRICE ONE SHILLING

Annual subscription: 15s. inland, 14s. abroad.
From all newsagents or the Subcription Manager, TECHNOLOGY, Printing House Square, London, E.C.4.

Training Charts Measure Morale

(*Continued from page 25*)

packets. Thus insignificant variations were smoothed out.

A duplicated sheet was prepared (Fig. 3) with the scales on both axes already marked. Alternative scales were included so that the one sheet could be used for other jobs in the department. The recording of the figures was accomplished with a mounted rubber block—the mount being exactly the size of one of the squares to facilitate positioning—and an ink pad. By the use of different coloured inks for other individual jobs it was possible to see at a glance when transfers had occurred and to observe the effect on the performance of the individual. This method provided another graphical representation of performance and it was still possible to observe similar trends between shifts, even though of different working period, as a similarity of pattern was at once obvious. For comparison, Fig. 3 represents the performance of the same packer represented by the line B in Fig. 1.

The graphical representation of performance in this way also helps judgment of the extent to which operators have been affected by small variations from standard working conditions. When these occasions arise, it is not always possible to make an accurate analysis of the change by time study methods, yet an adjustment to the bonus set up is often claimed. A comparative examination of these charts will frequently permit a distinction between the effect of operator reaction and the direct effect of non-standard conditions, judged by those operators known from their charts to be less susceptible to emotional variations.

Management Diary for May

BACIE

2 **Birmingham.** What are the problems of the Secondary Modern child entering Industry? One-day conference.

3-5 **Oulton Hall Hotel, Clacton-on-Sea.** Progressive careers in Industry and Commerce after 16. Weekend conference.

5-25 **Prospect Hotel, Harrogate.** Training for Education and Training Officers. Three-week residential course.

29 **Derby.** Training youth for leadership. Forum.

BRITISH INSTITUTE OF MANAGEMENT

3-5 **Gleneagles.** Top management and planning control. Weekend conference.

BURTON MANOR

19-24 Electrical safety for foremen.

INDUSTRIAL CATERING ASSOCIATION

7 **Shell-Mex House, London.** Film Show.

INDUSTRIAL WELFARE SOCIETY

Residential Courses

10-13 **Majestic Hotel, St. Annes-on-Sea.** Canteens.

13-17 **Lilleshall Hall, Shropshire.** Young workers.

24-27 **Ashridge, Berkhamsted.** Foremen.

Non-residential Courses at Robert Hyde House

7-8 Visual aids.

8-9 Job evaluation.

15-16 Welfare and social services.

21-23 Workshop on promotion policies.

28-30 Industrial and factory law.

One-day Conferences and Meetings

6 Work simplification in the office. Conference for office executives.

14 Suggestion schemes.

22 Accountants and company secretaries.

23 Women executives' meeting.

29 Canteens day course.

30 Industrial Editors' (Welfare) Group Annual General Meeting.

INSTITUTE OF INDUSTRIAL SUPERVISORS

3-5 **St. Ann's Hotel, Buxton.** Industrial relations, industrial law.

3-5 **Crown Hotel, Scarborough.** The foreman and cost reduction.

17-19 **Allan Water Hotel, Bridge of Allan.** The foreman and cost reduction.

24-26 **Waverley Hydro Hotel, Melrose.** Work study for supervisory management.

31-June 2 **St. Ann's Hotel, Buxton.** Practice of supervisory management.

INSTITUTE OF PERSONNEL MANAGEMENT

10-12 **Eastbourne.** Annual conference of the Staff Management Association.

12-17 **West Kirby.** Wage and salary structure and administration. Five-day residential study course.

17-19 **Llandudno.** Northern region conference.

RESIDENTIAL COURSES FOR GIRLS

18-25 **Kilmory Castle, Argyllshire.** Mixed course for girls in various types of employment.

URCHFONT MANOR

13-19 The human factor in production. Course for foremen, chargehands and union representatives.

EXHIBITIONS

6-17 **Castle Bromwich.** British Industries Fair.

6-10 **Toronto.** Industrial Tool and Production Show.

7-17 **Olympia, London.** Instruments, Electronics and Automation Exhibition.

13-16 **Los Angeles.** 38th Office Machinery Exposition.

20-23 **New York.** 2nd Design Engineering Show.

Official Publications

GENERAL

Choice of Careers, New Series No. 57. The Medical Laboratory Technician. *H.M.S.O.* 6d.

Choice of Careers, New Series No. 18. Wood Sawyer and Woodcutting Machinist. *H.M.S.O.* 1s. 3d.

Power Presses. 3rd report of proceedings of the Joint Standing Committee on safety in the use of power presses. *H.M.S.O.* 1s. 9d.

Industrial Civil Defence Bulletins.

1. Preliminary memorandum on the organisation of civil defence in Industrial and Commercial premises. *H.M.S.O.* 9d.

2. Industrial Civil Defence Service. *H.M.S.O.* 9d.

Home Office Report on a fatal accident in an explosives factory at Bramble Island, Great Oakley, Essex, on July 3, 1956. *H.M.S.O.* 8d.

Thermal Insulation (Industrial Buildings) Bill. House of Commons Bill (1956-7) No. 49. H.M.S.O. 6d. To make provision for the thermal insulation of industrial buildings; and for purposes connected therewith.

STATUTORY INSTRUMENTS

No. 181. The Wages Regulation (Dressmaking and Women's Light Clothing (Scotland) Order, 1957. Dated February 8, 1957, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act 1945 (a). *H.M.S.O.* 6d. Sets out statutory minimum remuneration payable in substitution for previous Orders which are revoked. Effective from February 22, 1957.

No. 208. The Wages Regulation (Retail Bespoke Tailoring) (England and Wales) Order, 1957. Dated February 12, 1957, made by the Minister of Labour and National Service under Section 10 of the Wages Council Act 1945 (a). *H.M.S.O.* 7d. Sets out statutory minimum remuneration payable. Effective from February 27, 1957.

METROPOLITAN COLLEGE

Specialised Postal Tuition—Taken at Home in Leisure Time—for the Membership Examination of the

INSTITUTE OF PERSONNEL MANAGEMENT

Also interesting, authoritative (non-examination) postal tuition in Personnel Management, Economics, Business Administration, Industrial Law, Statistics, Social Administration, etc.

Send today for free prospectus, mentioning exam. or subjects in which interested, to the Secretary, G1/85, Metropolitan College, St. Albans (or call at 30 Queen Victoria Street, London, E.C.4).

ST ALBANS

ADVERTISERS IN

CLASSIFIED AD. COLUMNS

YOU PAY FOR SUCH SERVICE AS THIS WHETHER OR NOT YOU MAKE USE OF IT, AND IT SAVES A LOT OF TIME AND TROUBLE.

Prompt, efficient and experienced attention. All journals. Box numbers. Monthly A/cs. to approved clients. Expert and impartial advice free.

Classified Advt. Dept.:

PRATT & CO. (ADVERTISING) LTD.

11 Albert Square, Manchester

Tel.: Deansgate 5861-3. *Ask for Miss Robinson*

And LONDON. Established 70 years

A NEW 'AUTO-SHAVER' SERVICE FOR YOUR STAFF— IT PAYS FOR ITSELF!

- Housed in a handsome cabinet with built-in mirror, installation carries 12 months' guarantee.
- "6d. in the slot" provides five minutes of luxury shaving with this superb "Auto-Shave" Electric Razor.
- After use, the razor is automatically disinfected on return to the cabinet.
- Officially approved.

TWO SCHEMES ARE AVAILABLE:—

(A) OUTRIGHT PURCHASE:

£36 complete.
12 months' guarantee. You retain all the takings.

(B) FREE INSTALLATION AND MAINTENANCE:

(At present available in London and Home Counties only).
You receive percentage of takings.

Invaluable in Hotels; Restaurants; Canteens; Clubs; Military, Fire Service and Police Messes; Hostels; Railway Stations and Trains; Ships; Airports and Docks; Factories; Business Houses; Turkish and Municipal Baths, etc.

Write for full information to:—

PARTWEST LTD. 50 MOUNT STREET, PARK LANE, LONDON, W.1. GROsvenor 6706

ADVERTISING FOR STAFF?

- No service charge
- Same rates as Newspapers
- Expert advice on best papers
- Clerical work saved
- Only one order needed
- Only one itemised account
- On the spot service
- Ads taken for all Newspapers, Journals and Magazines, etc.
- Commercial Television

"My pleasant friend, Jem White" Charles Lamb

SEND YOUR SMALL ADS TO WHITES of FLEET STREET

R. F. WHITE & SON LTD. 72-78 FLEET STREET, LONDON, E.C.4
The Oldest Advertising Agency in the World Telephone Fleet Street 8311/5

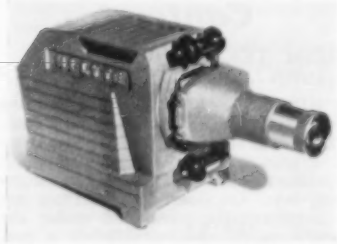
EFFICIENCY ★ SAFETY ★ HANDLING ★ CANTEEN ★ BUILDING ★ HOUSEKEEPING ★ WELFARE

Firms with new products for better, safer working in industry are asked to send details to the Editor with, if possible, an illustration.

Efficiency Aids

SELF-COOLING PROJECTOR

THIS *Hi-Lyte 300* is a new, moderately-priced filmstrip and slide projector for operation on 200/250 volt A.C. supplies. The film carrier takes standard filmstrips of either 36 mm. by 24 mm., or 18 mm. by 24 mm. picture sizes, and is interchangeable with a slide carrier for using glass- or card-mounted transparencies in the 2 in. by 2 in. size.



A feature of the Hi-Lyte 300 is its powerful blower cooling—by a high-speed, motor-driven fan, ensuring adequate protection to transparencies, increased lamp life and comfortable handling. The fan motor does not interfere with television reception.

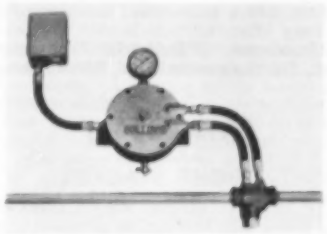
This robust and compact projector is of rigid die-cast construction with a durable crackle finish. It has a three-point suspension, incorporating an elevating screw for simple tilt adjustment.

Rank Precision Industries Ltd., 37-41 Mortimer Street, London, W.1.

SAVES TIME AND POWER

THIS automatic fan control unit is for use in the spray booth, where it automatically switches off the fan when the spray gun is no longer in use, and switches the fan on again when spraying re-starts. Thus, say the makers, there is a substantial saving in heat losses as well as in electric power to run the fan.

Time study shows that in many spray booths the operator actually uses his spray gun for only one-third of the day, the rest of his time being spent in handling material and preparation of his work and equipment. In most installations the exhaust fan is running



all the time, so that it may be possible to save up to two-thirds of the existing heat loss.

Alfred Bullows & Sons Ltd., Long Street, Walsall, Staffs.

EASY ACCESS CONTROLS

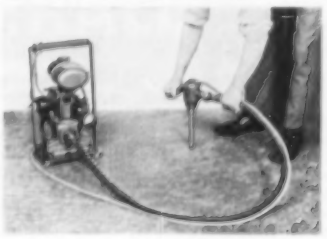
CHIEF improvement in a new range of portable gun welding equipment is the use of a wall-mounted ignitron contacter/timer unit. This means not only that the weight of the transformer assembly is reduced and operator fatigue lessened, but also that all controls are conveniently grouped, with easy access for servicing.

The contacter/timer unit, measuring only 30 in. by 30 in. by 10 in. deep, houses two thermostatically-controlled ignitrons and a four-function timer which can be pre-set to control delay, weld-, hold-, and off-times. Standard units have a single timer, but two can be fitted to provide independent control for dual gun operation from the same transformer.

Philips Electrical Ltd., Century House, Shaftesbury Avenue, W.C.2.

PORTABLE FOR SPEED

PICTURED here is portable and flexible drive equipment for drilling clean, accurate holes in concrete, quarry



tiles, granite, brickwork and all natural stones. The following drilling times, expressed in seconds per inch, can be achieved with 1-inch diameter drills, with corresponding faster times with smaller drills:—

Quarry tiles, 20 sec.; concrete, 30 sec.; granite, 25 sec.; granolithic, 20 sec.; York stone, 15 sec.; and brick, 10 sec.

The firm's standard grinding and polishing machines can be adapted for this work by the addition of a special drilling head.

Flextol Engineering Co. Ltd., The Green, Ealing, London, W.5.

VERSATILE COMPRESSOR

THIS *Mini-Compressor* can be put to a variety of uses apart from the obvious ones of tyre inflating and spray-gun motivating. Among others, it has been used for air/gas welding and for the removal of swarf from lathes.

Its features include delivery of air at more than 90 lb./sq. in., it is easily connected and disconnected, no oiling is needed, and there is an on/off press-button switch. It is only 6½ in. high by 6½ in. across, and weighs 7 lb. Available as optional extras are a dial pressure gauge and a spray gun which operates direct from the compressor without the use of an air receiver.

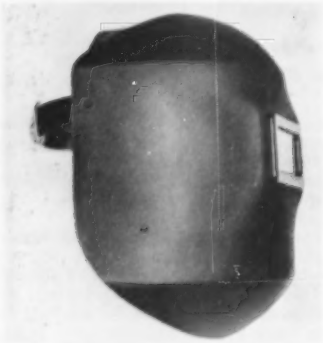
Gennar Engineering Ltd., 99 Old Street, London, E.C.1.

Safety

ONE-PIECE HELMET

THIS new welding helmet, catalogue number 1686, is of one-piece construction and the shape has been

streamlined to improve both comfort and appearance. The deeply-curved sides give good protection against side-flash and reflected radiations, and the total weight of the helmet, with filter and cover glass, is only 23 oz.



The glass-holder is of shock-resistant plastic and takes filters size 4½ in. by 2 in. The coloured filter is of Protex glass to BS.679/1947, and is protected by a clear cover glass. It is a very simple matter to change filters or replace cover glasses as required.

The headband is lined with a replaceable sponge sweatband, which is washable. The sponge is soft when it is damp, is non-irritant, and is always comfortable in wear. The size of the headband is controlled by a hexagonal nut, and precise adjustment to give perfect fitting is achieved by finger-tip control.

The helmet is also fitted with a chin-strap, which can be adjusted for size, and the helmet remains firmly in position when it is swivelled above the head.

Fleming Safety Goggles, 146 Clerkenwell Road, London, E.C.1.

SAFE AND SIMPLE

ONLY eight small screws are required for fixing this simple and economical ladder safety device. There are no large bolt holes to weaken the ladder, and it can be fixed to aluminium

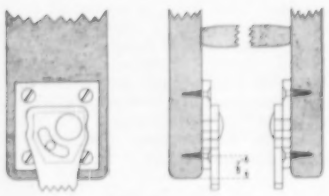


Diagram showing fixing and operation of the C.I.E. ladder safety device.

alloy ladders where wooden blocks are incorporated. The operation is automatic when the ladder slips. Otherwise the ladder remains in its normal position with the toothed arresting plate of the device just touching the floor. There is, therefore, no unnecessary marking of the floor surface. After arresting any slip the attachment returns automatically to its normal position as soon as the ladder user places his foot on the bottom rung.

The angle of use of the ladder can be selected at will without impeding the effect of the device. It does not hamper storage or handling of the ladder, and a sherardised finish ensures a long life.

Contractors & Industrial Equipment Ltd., 276 Monument Road, Birmingham, 16.

Handling

LIGHT-WEIGHT STACKER

UP to 12 ft. vertical lift on forks or goods platform can be obtained with the "Lodematic" light-weight straddle stacker. Only 30 in. wide, the stacker can be manually propelled under load, and can be used in narrow gangways and in a minimum of headroom.

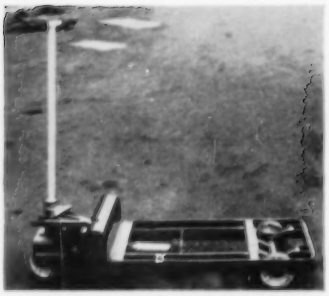
The 24 in. square goods platform is suitable for inter-floor use and lifting of unit loads, whereas the forks can be applied to palletised loads.

Height of lift and speed of descent are under "finger-tip" control by manual valve, but an automatic platform is also available on certain models.

Lodematic Ltd., Clitheroe, Lancs.

SECURE LIFTING

THIS lifting truck, which can be supplied either with cast-iron wheels or heavy-duty, rubber-tyred wheels, has a frame size of 36 in. by 18 in. and a lowered height of 6 in. The amount of lift obtained by pulling down the truck handle is 1¼ in., and when the release pedal is engaged an hydraulic check ram immediately takes control in



order to prevent the stillage crashing back to the ground.

Full lock steering controlled positively by the pulling handle is fitted, and the truck is a very robust construction and has the corners of the lifting frame rounded at approximately 2 in. radius to facilitate entry into the stillage.

Eccles (Birmingham) Ltd., Redditch, Worcs.

Canteen

FRESH TEA—HYGIENICALLY SERVED

THIS "tea cub" machine is claimed to be the first fully-automatic machine to serve fresh tea at the drop of a coin. It serves Kwik tea, with or without sugar, into a hygienic, throw-away cup. On inserting a coin this cup is automatically positioned under the supply point, and immediately a predetermined amount of tea concentrate, fresh milk and liquid sugar flows into the cup, followed by a supply of hot water. The machine can contain enough supplies to deal with 150 seven-ounce cups. The water inlet, which can be connected to an easily-accessible source, ensures that the water tank is continuously filled.

A similar machine for use in factories will take the individual's own cup.

W. M. Still & Sons Ltd., 29-31 Greville Street, London, E.C.1.

Building

LONG-LASTING PREFABS

THESE portable buildings have been designed to meet the need for small temporary and permanent structures which can be erected quickly and put into use within a few days.

The work can be carried out by unskilled labour on a level and smooth concrete base. Self-bracing tongued-and-grooved panels facilitate speedy assembly. Doors, window panels and internal partitions can be arranged to suit all requirements.

The buildings are ideal for use as canteens, packing and despatch sheds, drawing offices, engine test, power or boiler houses and switchrooms, equipment stores, joinery and machine shops, maintenance workshops and laboratories.

The buildings, apart from having good appearance and fire-resisting qualities, are rot-and vermin-proof.

Marley Concrete Ltd., Peasmarsh, Guildford, Surrey.

Good Housekeeping

SELF-SPRAY PROTECTION

PARSONS Transparent Lacquer, the makers claim, is quick drying (under normal circumstances it is dry in approximately 10 minutes), and is suitable for application to metal, wood or paper. A coating of the lacquer on metals such as brass, silver and copper can prevent tarnishing, and it is also useful for protecting chromium plating.

On paper it provides a lasting finish to prints, notices, records, etc., and is ideal for obtaining a hard, glossy finish on untreated hardwood and whitewood erections or furniture. It is *not* recommended for use out of doors, except for the temporary protection of chrome work on motor vehicles during the winter months.

The lacquer can be sprayed on, and for this purpose it is available in self-spray (aerosol) containers, price 12s. 6d. per tin.

Thos. Parsons & Sons Ltd., 70 Grosvenor Street, New Bond Street, London, W.1.

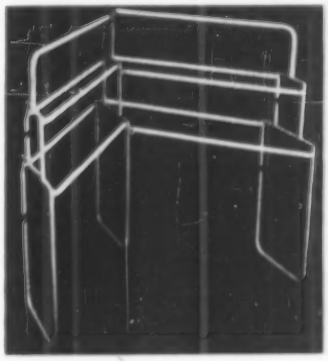
Welfare

FOR OCCASIONAL DRYING

ALTHOUGH primarily for domestic use, this clothes airer can be very useful in the small workshop or canteen kitchen. Folded flat, it can be easily stored in a small cupboard; opened out, it has seven yards of hanging space.

It is made of all-tubular steel, yet its net weight is under 10 lb., and when folded it measures only 2 in. in thickness, by 35 in. high, by 3 ft. wide.

Home-East Ltd., Haslucks Green Road, Shirley, Birmingham.



the skilled workers you want take the working man's own paper!

•

GET THEM THROUGH THE CLASSIFIED COLUMNS OF THE

DAILY HERALD

RATES All editions - - - 20/- per line
Southern editions 17/6 per line
Northern editions 8/- per line

Phone Temple Bar 1200 (Ext. 452-8) or Manchester Central 3232 (Ext. 75)

Classified Advertisement Manager, DAILY HERALD, Acre House, Long Acre, London, W.C.2 or 2/4 Oxford Road, Manchester, 1.

This towel never gets wet

new steam-heated HAND & FACE DRYER

OUTSTANDING ADVANTAGES:

- High speed hygienic drying for hands, face, arms and hair.
- Deals with 8 to 10 persons per minute.
- Slashes towel costs.
- Prevents spread of skin infection.
- Operates from factories' own steam supply.
- A self-contained unit—easy to install.
- Robustly constructed for long trouble-free service.

★ Visit our Stand No. C.10 at the Factory Equipment Exhibition.

Photo by courtesy of The Universal Grinding Wheel Company Ltd., Stafford.

SOME OF THE USERS OF AIR TOWEL:

Clarnico Limited, London · Co-operative Wholesale Society Ltd., Derby · Alfred Hughes & Sons Ltd., Birmingham · Ilford Limited, London · Sanbra Limited, Birmingham · The Singer Manufacturing Co. Ltd., Clydebank · Stavely Iron & Chemical Company Ltd., Chesterfield · The Universal Grinding Wheel Company Ltd., Stafford.

Air Towel
HAND & FACE DRYER
A SPIRAL TUBE PRODUCT

FURTHER PARTICULARS FROM AIR TOWEL DIVISION (DEPT. P.M.)

THE SPIRAL TUBE COMPONENTS CO. LTD., OSMASTON PARK ROAD, DERBY. Tel.: DERBY 48761 (3 lines)

LONDON OFFICE: HONEYPOT LANE, STANMORE, MIDDLESEX. Tel.: EDGware 4658/9

Peter's SANITARY TOWEL Vending Machines

provide these advantages

- A mechanism that can be adjusted to operate on any number of coins.
- A choice of brands—soluble and non-soluble.
- An assurance of unlimited supply.

Particulars from

AUTOMATIC MACHINES
LIMITED
1 Ladbroke Road
London, W.11
Telephone: PARK 7608

PETER'S

Wandsworth "THE BUNNIE" INCINERATOR

At last—an efficient electrical incinerator for the hygienic disposal of sanitary towels. No special flue required. The outer case does not get hot. No special wiring; any 5 amp. 3-pin outlet will serve. Internal fan absolutely prevents emission of fumes, smoke or smell, even when hatch is open. Combustion chamber of refractory brick. Automatic timing. Details available for installation of more than one machine to a common flue.

For **Wall** *mounting, also* **Pedestal** *type for floor mounting.*

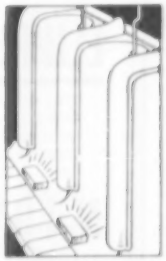
Guaranteed for 12 months.

Send for full particulars to **Dept/C.R.**

THE WANDSWORTH ELECTRICAL MFG. CO. LTD.
Albert Drive, Sheerwater, Woking (Surrey)
'Phone: Woking 3506 (P.B.Ex.) 'Grams: "Current" Woking
136 Cromwell Rd., Kensington, S.W.7 190 Vittoria St., Birmingham, 1

FOR **TOILET HYGIENE** USE
SOLID DISINFECTANT BLOCKS

Liquid disinfectants only a temporary measure; rapidly 'washed away'



"G" BLOCKS FOR GENTS' CHANNELS

MADE OF A CHEMICAL INSOLUBLE IN WATER
ABSORBS NOXIOUS ODOURS—DAY AND NIGHT
PLACE ONE IN EACH STALL—NEED NO ATTENTION

3 Doz. 31/- 6 Doz. 61/- 12 Doz. 117/-

AIR PURIFIER TABLETS AND PATENT PLASTIC HOLDERS

DEODORIZE 24 HOURS A DAY
FOR LADIES' AND GENTS' TOILETS

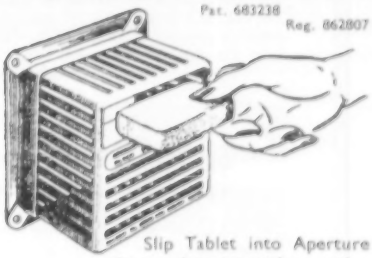
★ Purifies Atmosphere
★ Remains effective until evaporated

AIR PURIFIER TABLETS
3 Doz. 38/- 6 Doz. 74/- 12 Doz. 142/-

HOLDER PERMANENT FIXTURE TO DOOR OR WALL

PRICE 4/6 each

Pat. 683238
Reg. 862807

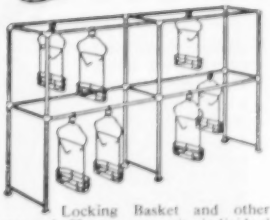


Slip Tablet into Aperture
Cannot be removed or stolen

CARRIAGE PAID ON ALL ORDERS £5 AND UPWARDS

AROMATIC DISINFECTANT BLOCK CO., LTD., 9 AUGUSTUS RD., LONDON, S.W.19. Tel.: PUTNEY 5181

THESE AIR-DRY "SIEBER" HANGERS ARE A TREAT



Locking Basket and other types of Hanger to suit individual requirements, fully meeting the New Factory Act.

"At last I can change into dry, uncreased clothing when I go home! It's plain common sense to hang rain-soaked 'togs' on a 'SIEBER' Hanger instead of bundling them into an unventilated, smelly locker. It saved me from many colds and my clothes are fresh and wear better. The boss, too, must like these 'SIEBER' Hangers because they reduce absenteeism and the space he saves is bound to repay the little money they cost. Repair costs? Not on your life, because this Hanger Equipment is made to last for good and all."

Pat No. 415653
Des. Reg. No. 789558

SIEBER

ALL—IN—ONE HANGER EQUIPMENT

Permanent Exhibit at Health and Safety Centre, London, S.W.1.
Installed in Factories, Offices, Public Undertakings, Schools, Hospitals, etc.
Write today *for full details of our Free Planning Service.*

JAMES SIEBER EQUIPMENT CO. LTD., 30 Africa House, Kingsway, London, W.C.2. Tel.: HOL 4531 & 5121

ELIMINATE YOUR BIRD PESTS

Consult :

N. EDWARDS & COMPANY

56 TORRINGTON PARK,

FINCHLEY,

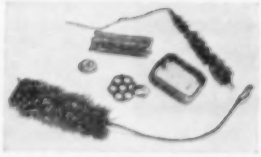
LONDON, N.12

Telephone : HILLside 2284

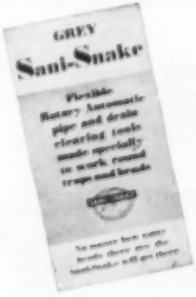
Leading specialists in the extermination of pigeons, sparrows, etc.

Satisfaction guaranteed

Keep plumbing clear



REMOVED by the "Sani-Snake" after all attempts by other means had failed.



One blocked waste pipe may cost you anything from £10 to over £100 for excavation or dismantling. A "Sani-Snake" will cost you £10 or less and will eliminate the necessity for such costly work. A very large number of famous manufacturing firms and departmental stores are daily using the "Sani-Snake."

The equipment reduces the clearance of pipes to the simple job of turning a handle. Any member of the maintenance staff can use it. There is work for a "Sani-Snake" wherever pipes are in use.

Write for free explanatory illustrated folder and price list.

Licensee and Manufacturer

CHARLES C. GREY
20-21 TOTTENHAM MEWS
TOTTENHAM ST.,
LONDON, W.1
Telephone : MUSeum 9145

Garrould's

OVERALLS

Famous for more than 100 years

Renowned for

Quality

&

Value

Every overall made by Garrould's is a distinctive garment that will satisfy the most discriminating buyer. Special Quotations for quantities.

Illustrations, prices and patterns of material sent post free on request.

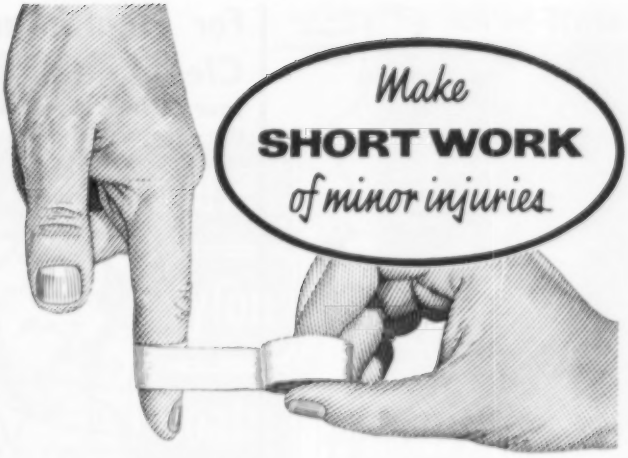
E. & R. GARROULD LIMITED
150-162 EDGWARE ROAD, LONDON, W.2
Telephone : Paddington 1001

All protective garments are best equipped with Dainite Buttons, and non-slip Buckles for Belts. Labour-saving, permanent, no shanks required. *Write for samples.*

Dainite

WASHABLE & UNBREAKABLE BUTTONS & SLIDE BUCKLES

THE HARBORO' RUBBER CO. LTD.
Dainite Mills, Market Harborough. Tel: 2274/6

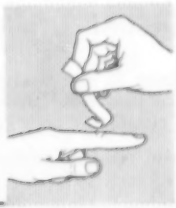


Make
SHORT WORK
of minor injuries

Many a 'lost time' accident could be avoided with the aid of Prestoband — which is a pure surgical cotton gauze bandage, specially treated to make it adhere to itself. No knots or pins are needed in applying Prestoband. It takes no time to apply and assists and speeds up the healing of minor injuries. Moreover, Prestoband is very easy to remove . . . no pulling and tugging, no painful clinging to skin or hair. It comes off cleanly, kindly — and leaves no mark. No first aid box is complete without Prestoband. For bulk users the Prestoband 'Hospital' Pack saves about 40% on costs. 12-yard rolls, in three widths: ½", 1" and 2". From your usual supplier or from the manufacturers, VERNON & CO. LTD., PRESTON, LANCS. Telephone: Preston Priory 83293. Samples sent on request.

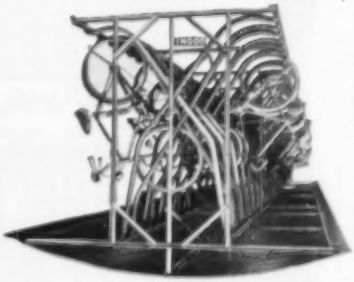
PRESTOBAND THE ANTISEPTIC SELF-ADHESIVE BANDAGE

Sticks to itself, but NOT to the skin!



PARK YOUR CYCLES
THE ODONI WAY
(REGD. TRADE MARK)
With Odoni Patent "All-Steel"
BICYCLE STANDS

Types to suit all possible requirements
SINGLE OR DOUBLE-SIDED, HORIZONTAL OR SEMI-VERTICAL
For Indoor and Outdoor use



TYPE 10
DOUBLE SIDED SEMI-VERTICAL OUTDOOR STAND, BUILT WITH CLOSE RACK ARRANGEMENT (CYCLES AT 12" CENTRES)

Write for fully illustrated leaflet and price list to Sole Manufacturers and Patentees

ALFRED A. ODONI & CO. LTD.
SALISBURY HOUSE, LONDON WALL
Tel. No.: LONDON, E.C.2 Tel. Add.:
NATional 8525/6 (WORKS: LONDON, N.W) Odoni, Ave. London

"Step-on-it"

MOP WRINGER
Saves floor cleaning time

The New "Step-on-it" Mop Wringer-Bucket solves the problem of wringing the bigger mops which are necessary for cleaning large areas without the hands of the operator coming into contact with water, disinfectants or other cleaning agents.

66/6
Including Purchase Tax

Mop is placed in the bucket between the rollers, and by stepping on the lever, rollers are brought together, squeezing out the water.

Please send this coupon for further details to
VITOPAN LTD., 86/88 Garfield Road, Wimbledon, S.W.19

NAME
FIRM
ADDRESS
SOT/PM

If you need executive staff!

☆

Personnel Officers

Canteen Managers

Industrial Safety Officers

Welfare Officers

☆

Then you need the classified columns of

PERSONNEL MANAGEMENT & METHODS

Rate: 3/- per line, minimum 6/-; average 24 letters per line, box numbers to be paid for as 2 lines.

Display panels: £1/15/- per single column inch.

Send your advertisement to: Advertisement Manager, PERSONNEL MANAGEMENT & METHODS, Mercury House, 109/119 Waterloo Road, London, S.E.1. Tel.: WATerloo 3388.

The Food Hygiene Regulations, 1955

***For Health and Cleanliness . . .* in your kitchens use the soap the doctors choose for their surgeries . . .**

For 50 years . . . awarded the Certificate of Merit of the Royal Institute of Public Health and Hygiene.

Always put Wright's on the Washbasins for personal use by the staff—the soap which is not highly perfumed.

Write for free sample tablet of soap now.

Obtainable from all Chemists and Grocers.

In Toilet and Bath sizes.

WRIGHT'S
COAL TAR SOAP

Wright, Layman & Umney Ltd., Southwark Street, London, S.E.1

CLASSIFIED ADVERTISEMENTS

CATERING

Boilers, Steamers, Cookers, Bains Marie, Peelers, Slicers, Hot Cupboards, Café Sets, Refrigerators, Dishwashers, Stainless Steel Sinks and Fabrications, etc.

Our prices for new and rebuilt equipment are keenest in the trade, every item carrying full guarantee.

Horwood Catering Equipment Ltd.
6/8 Stroud Green Road, London, N.4.
Tel.: STA 3250/8/9

Nesting Chairs, 1,100 available, brand new, tubular steel, finished top-quality stove enamel, seats and backs shaped laminated polished ply, at 29s. each, in minimum lots of 50.

Horwood Catering Equipment Ltd.,
6/8 Stroud Green Road, London, N.4.
Tel: STAmford Hill 3250/3258/9.

EMPLOYMENT AGENCY

AVIAN APPTS. AGENCY. All staff for all jobs. Male & Female. Permanent & Temporary. 109 Tottenham Court Road, W.1. EUSton 8406.

SITUATIONS WANTED

DOCTOR DESIRES POST as part-time medical officer to industrial/commercial company, 1, 2 or 3 sessions weekly, highly experienced, London or home counties. Reply: Box No. 141, Personnel Management & Methods, 109/119 Waterloo Road, S.E.1.

SITUATIONS VACANT

PERSONNEL MANAGER REQUIRED for light engineering factory employing 1,400. Thorough knowledge of procedure agreements essential. Apply in writing to: General Manager, Williams & Williams Ltd., Reliance Works, Chester.

STAFF OUTINGS

A MESSAGE TO—
COACH PROPRIETORS—TRAVEL AGENTS CLUB SECRETARIES—WELFARE OFFICERS PERSONNEL MANAGERS

No need to worry this year about pleasing your Coach Parties or Works' and Clubs' Annual Outings! At the Clifton Restaurant we cater for parties of 20 to 300 guests. Excellent food is provided in pleasant surroundings at reasonable charges. Near Bathing Pool, Sands, and Peasholm Park. Whether your party is large or small, make your next outing to SCARBOROUGH—and THE CLIFTON. Particulars, folder and specimen menus on request to the Resident Managers.

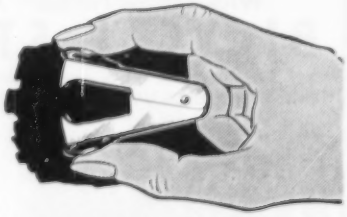
Mr. & Mrs. H. Reginald Robinson,
THE CLIFTON RESTAURANT
Overlooking North Bay SCARBOROUGH
Telephone 3253/4 Coach Park Nearby
Fully Licensed. Cocktail and Smokeroom Bars. Facing Sea.

MISCELLANEOUS

HOLD THEM!—A Rex library becomes an indispensible part of your welfare. Self-supporting, no trouble. Companies whose names are household words have them. For details write:—
Rex Library Service (W),
135a Goswell Road, London E.C.1.
CLE 0351

The 'STANDARD'

STAPLE REMOVER



A NEW AND EFFICIENT DEVICE FOR REMOVING STAPLES FROM PAPER AND OTHER MATERIALS

Retail Price

6/6

each

Tax Free

by light pressure of the fingers (see illustration) removes clinched staples neatly and quickly. Withdrawn staples held firmly on remover, no danger of flying staples striking the operator in the face.

Fully Guaranteed

THE STANDARD OFFICE SUPPLIES CO.
57 Farringdon Road London EC1
CHAncery 5561 (6 lines)

BEACON

"Wash and Wear"

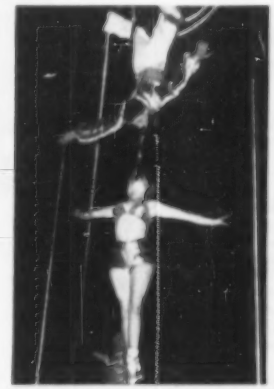
These "dip and dry" coats are a perfect combination of smartness, economy and long wear. No laundry problems, no ironing, and they keep their fresh daintiness throughout their long life. Available in a range of 11 colours.

Enquiries to DEPT. P.M.I.

STYLE QUALITY — LONG LIFE NON-IRON

WOOD HARRIS & CO. LTD.
HALIFAX
'Phone
HALIFAX 4079 and 5936

"BY THE SKIN OF HIS TEETH"



THE FOUR MONSANTOS
present a daring and thrilling display of Neck and Dental Spins on the High Trapeze

IT'S NOT TOO LATE
To arrange an attraction for your Sports Day or Gala

Write for details of our comprehensive service:
MURRAY-WARD PRODUCTIONS
38 Demesne Road, Whalley Range
MANCHESTER, 16. *Tel. Ardwick 1997*

Everything for your Sports Day, Gala, Concert, Dance or Children's Party, etc.

"STAR" ATTRACTIONS OUR SPECIALITY

"Wheelers of Plaistow"

specialists in the manufacture of

OVERALLS
for
MEN
and
WOMEN
in every Trade

The "VOLE" Brand DIGNIFIES THE JOB

H. WHEELER & CO. LTD.
Overall Clothing Manufacturers
107 LONDON RD., PLAISTOW, E.13
Telephone: GRAngewood 4071

There's a wealth of new staff potential in the readership of

ROYAL AIR FORCE *Flying* REVIEW

Europe's largest Aviation Magazine

FLYING REVIEW readers are the bright young men of today—the men with great promise for the future. A large proportion of them have Grammar, Public School or University educations, most of them are looking for careers with a future. Many, too, have technical qualifications, for FLYING REVIEW has complete coverage of R.A.F. stations at home and abroad, and these men in particular are keenly interested in the choice of a career to follow their National Service. 83,000 of them buy FLYING REVIEW every month. All told some 400,000 see it regularly and 70% of them are in the all-important 17-25 year age-group, wherein career decisions are of pressing, paramount importance. This concentrated market is available to you only through FLYING REVIEW. Test it with a trial advertisement for your own staff vacancies.

Send now for free specimen copy and rate card to

ROYAL AIR FORCE *Flying* REVIEW

DEPT. S.P., 180 FLEET ST.
LONDON, E.C.4. (or 'phone WAT 3186)

INDUSTRIAL CLEANLINESS

For hands and skin:
Cleanser or Barrier?

Industrial Dermatitis originates in skin irritation caused by chemical irritants and frictional effects. Barrier substances offer certain protection during work, but may be penetrated by the abrasive effect of working processes, and should be reinforced by effective cleansing. Adequate protection is only secured by using an approved cleanser after work. Saroul is scientifically compounded to be fully efficient, either alone or in conjunction with barriers. It is not a harsh antiseptic, but a grime-removing cleansing agent which assists the natural healing processes of the body, and extends its protective effect into the hours after work.

SAROUL HAND CLEANSER
GIVES 24-HOUR PROTECTION

Testing Samples and Literature free on request from Department NS.

Sandeman Brothers Ltd.

BILSLAND DRIVE MARYHILL GLASGOW

Users of Sandeman Products include J. & P. COATS LTD · MINISTRY OF SUPPLY · NATIONAL COAL BOARD · LEVER BROTHERS · IMPERIAL CHEMICAL INDUSTRIES · GLENFIELD & KENNEDY LTD · FORD MOTOR CO. LTD · NORTH BRITISH LOCOMOTIVE CO. LTD

WATERPROOF FIRST AID

Waterproof First Aid Dressings are intended for use when a wound is exposed to water, or contamination from oil, dirt, etc. and also where necessitated by hygienic requirements.

Illustrated is our most popular assortment of such dressings (Adaptopruf No. M207) consisting of 114 adhesive plasters of five different sizes. Each has a dressing pad of soothing, quick healing Euflavine, a most effective medicament equally for wounds and burns.

Whenever a waterproof plaster is not essential we recommend Adaptoplast First Aid Dressings be used.

PIONEERS OF INDUSTRIAL FIRST AID

A PRODUCT OF *Curson, Gerrard & Co Ltd.* OLDBURY BIRMINGHAM

Established 1878
'Phone BROadwell 1355

The Perfect Pavilion

Accurately designed by experts and constructed from highest quality new timber—Peel's pavilions are ideal for all sports clubs. Although simple to erect—these buildings are hardy and solid and will withstand the cruellest elements.

FREE DELIVERY WITHIN A 200 MILE RADIUS

★ *Send for catalogue and price list—or ask our representative to call.*

PEEL'S *Sectional* **BUILDINGS**

H. Peel Ltd., Dept. PM, Mearclough Wks., Wakefield Rd., Sowerby Bridge, Yorkshire. Telephone: Halifax 81211.

PEL 100

Patent No. 479,807
Registered Design No. 819,509

Protect your workers adequately from dust and mist inhalation. Light and comfortable. Fit everybody perfectly. Weight ¼ oz. Allow free breathing, clear vision, use of goggles, free speech. The workers will wear them whether watched or not. Reduce absenteeism. Do not cause perspiration or skin irritation. Always clean because pad is easily replaced.

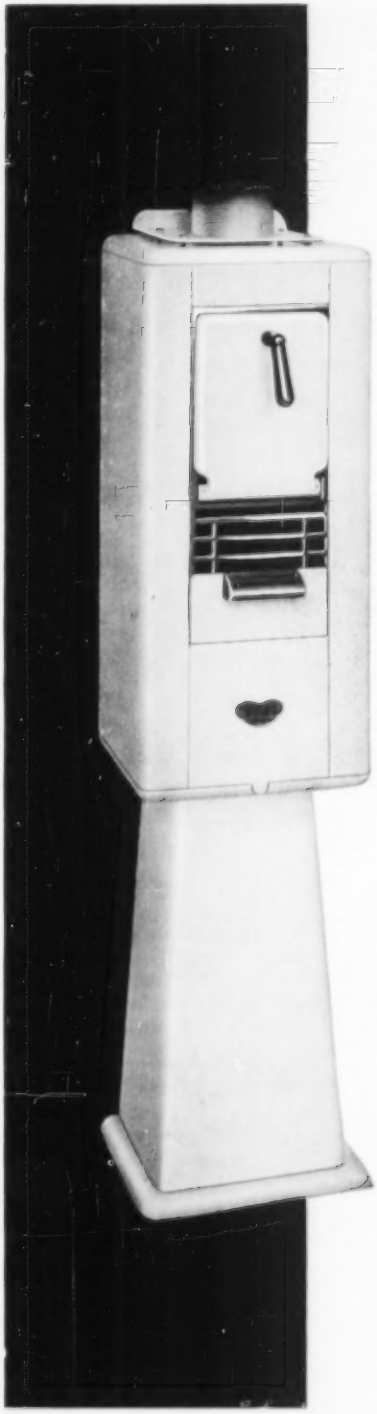
Have given satisfaction for over 25 years and are the standard by which other lightweight masks are judged.

Send 3/3 for Mask and 6 refills (Trial Sample) to

MARTINDALE PROTECTIVE MASK

MARTINDALE ELECTRIC CO. LTD.,
41 Westmorland Road, London, N.W.9
also at 25 Elmbank Street, Glasgow, C.2 and 111 Lower Clanbrissil Street, Dublin

Printed for the Proprietors, Shaw Publishing Co. Ltd., *registered office: 180 Fleet Street, London, E.C.4, England* (*Waterloo 3388*) by Samuel Temple & Co. Ltd., 271b King Street, London, W.6.
Advertisement, editorial and sales offices: Mercury House, 109-119 Waterloo Road, London, S.E.1 (Waterloo 3388).



Safeguard Public Health Encourage Personal Hygiene

in FACTORIES · HOSPITALS · CLINICS SCHOOLS · HOTELS AND OFFICES

Investment by British industrialists and others in modern equipment to safeguard the health and welfare of the vast and growing numbers of workers, has proved beyond doubt the wisdom of a policy both far seeing and democratic in concept.

The installation of Sugg's incinerators wherever women employees form part of an organisation is plain commonsense.

Our sales and technical staff will be glad to advise and co-operate.

The Sugg Incinerator

Gas-Fired

WILLIAM SUGG & CO. LIMITED
(Incorporating Cowper Penfold & Co. Ltd.)
VINCENT WORKS, REGENCY ST., LONDON, S.W.1 Tel.: VIC 3211

SUGG
WESTMINSTER

Issued by the Gas Council

Mr. Therm burns to serve you

for your business is Mr. Therm's business

consult your area gas board

the Gas Industry makes the BEST use of the Nation's coal